SEQUENCE LISTING

<110> Stanton, Lawrence W.
White, R. Tyler

<120> SECRETED FACTORS

<130> SCIOS.017A

<150> US 60/193,548
<151> 2000-03-31

<160> 70

<170> FastSEQ for Windows Version 4.0

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<212> DNA
<213> Rattus norvegicus

<220>
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<222> (195)...(674)

<400> 1

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atggcatcct gcagaataca cggcccctca tccccatccc gcgccagaga caccggccag     120
cccactgtcc ccgccacaca ttaaacttga tcctcctaca cagacgcact cggagcagag     180
cgcttataca agcg cac agc cgt ctc cgg cac cgc cac aca gac aga tga        230
                His Ser Arg Leu Arg His Arg His Thr Asp Arg  *
                 1               5                  10

tgc cgc ccc gac cga cgg cca gcc cca gac aca acc ttc tga aaa cac        278
Cys Arg Pro Asp Arg Arg Pro Ala Pro Asp Thr Thr Phe  *  Lys His
            15                  20                      25

aga aaa caa gtc cca gcc caa gcg gct gca tgt gtc caa cat ccc ctt        326
Arg Lys Gln Val Pro Ala Gln Ala Ala Cys Val Gln His Pro Leu
            30                  35                  40

ccg gtt ccg gga tcc aga cct ccg aca aat gtt tgg cca att tgg taa        374
Pro Val Pro Gly Ser Arg Pro Pro Thr Asn Val Trp Pro Ile Trp  *
        45                  50                  55

aat att aga tgt tga aat tat ttt taa tga gcg ggg ctc gaa ggg att        422
Asn Ile Arg Cys  *  Asn Tyr Phe  *   *  Ala Gly Leu Glu Gly Ile
        60                          65                  70

tgg ttt cgt aac ttt cga aaa tag tgc gga tgc gga cag ggc gag gga        470
Trp Phe Arg Asn Phe Arg Lys  *  Cys Gly Cys Gly Gln Gly Glu Gly
                75                  80                  85

gaa att gca cgg tac cgt ggt aga ggg ccg taa aat cga ggt taa taa        518
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Glu Ile Ala Arg Tyr Arg Gly Arg Gly Pro  *  Asn Arg Gly  *   *
                 90                  95

tgc gac agc acg cgt gat gac taa taa aaa ggc cgt gaa ccc cta cac      566
Cys Asp Ser Thr Arg Asp Asp  *   *  Lys Gly Arg Glu Pro Leu His
    100                 105                 110

caa tgg ctg gaa att aaa tcc agt tgt ggg cgc ggt cta cag ccc cga      614
Gln Trp Leu Glu Ile Lys Ser Ser Cys Gly Arg Gly Leu Gln Pro Arg
        115                 120                 125

ctt cta tgc agg cac ggt gct gtt gtg cca ggc caa cca gga ggg atc      662
Leu Leu Cys Arg His Gly Ala Val Val Pro Gly Gln Pro Gly Gly Ile
    130                 135                 140

ttc cat gta cag tggccccagt tcacttgtat atacttctgc aatgcctggc          714
Phe His Val Gln
145

tttccatatc cggccgccac tgctgcagct gcataccgag gggctcacct tcgaggccgt    774
ggtcgcaccg tgtacaacac cttcagagct gcggcgcccc cacccccaat cccggcctat    834
ggcggagtag tgtatcaaga gccagtgtat ggcaataaat tgctacaggg tggttacgct    894
gcataccgct acgcccagcc cacccctgcc actgctgctg cctacagtga cagttacgga    954
cgagtttatg ctgccgaccc ctaccaccac acacttgctc cagcccccac ctacggcgtt   1014
ggtgccatga atgcttttgc gcccttgacc gatgccaaga ctaggagcca tgctgatgat   1074
gtgggtctcg ttctttcttc attgcaggct agtatatacc aaggggggata caaccgtttt   1134
gctccatatt aaatgataaa accattaaac aaacaagcaa aaaacaaaac aaaaacaaaa   1194
aaaccaacct tccaatgtgg ggagagagga agctttccga ggcccgagtg ttgcgacaca   1254
tgcagtagga catcacttta gcaactcaaa gaaacaacga aaaaaaaaaa aaaaaaaaaa   1314
ataagcggcc gaaggggttc gctaga                                       1340

<210> 2
<211> 148
<212> PRT
<213> Rattus norvegicus

<400> 2
His Ser Arg Leu Arg His Arg His Thr Asp Arg Cys Arg Pro Asp Arg
 1               5                  10                  15
Arg Pro Ala Pro Asp Thr Thr Phe Lys His Arg Lys Gln Val Pro Ala
            20                  25                  30
Gln Ala Ala Ala Cys Val Gln His Pro Leu Pro Val Pro Gly Ser Arg
        35                  40                  45
Pro Pro Thr Asn Val Trp Pro Ile Trp Asn Ile Arg Cys Asn Tyr Phe
    50                  55                  60
Ala Gly Leu Glu Gly Ile Trp Phe Arg Asn Phe Arg Lys Cys Gly Cys
65                  70                  75                  80
Gly Gln Gly Glu Gly Glu Ile Ala Arg Tyr Arg Gly Arg Gly Pro Asn
                85                  90                  95
Arg Gly Cys Asp Ser Thr Arg Asp Asp Lys Gly Arg Glu Pro Leu His
            100                 105                 110
Gln Trp Leu Glu Ile Lys Ser Ser Cys Gly Arg Gly Leu Gln Pro Arg
        115                 120                 125
Leu Leu Cys Arg His Gly Ala Val Val Pro Gly Gln Pro Gly Gly Ile
    130                 135                 140
Phe His Val Gln
145
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<210> 3
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<212> DNA
<213> Rattus norvegicus

<220>
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<222> (215)...(796)

<221> misc_feature
<222> (1)...(867)
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ttggactcac tgcaggactg tgcagggaac cactgtccaa gcatcgggct aatagggggc 120
gcctgcctcg gtttaccctt cagcgtctgg tgaaatcccg cagcgtctag ggaaagatcc 180
gttctgctcc gcgagggaaa cagagccgtt gacc atg gtt gca acg ggc agt ttg 235
Met Val Ala Thr Gly Ser Leu
1 5

agc agt aag aac acg gcc agc att tca gag ttg ctg gac ggt ggc tct 283
Ser Ser Lys Asn Thr Ala Ser Ile Ser Glu Leu Leu Asp Gly Gly Ser
10 15 20

cac cct ggg agt ctg cta agt gat ttc gac tac tgg gat tat gtc gtc 331
His Pro Gly Ser Leu Leu Ser Asp Phe Asp Tyr Trp Asp Tyr Val Val
25 30 35

cct gag ccc aac ctc aac gag gtg gtg ttt gaa gag aca aca tgc cag 379
Pro Glu Pro Asn Leu Asn Glu Val Val Phe Glu Glu Thr Thr Cys Gln
40 45 50 55

aat ttg gtt aaa atg ttg gag aac tgt ctg tcc aag tca aag caa acc 427
Asn Leu Val Lys Met Leu Glu Asn Cys Leu Ser Lys Ser Lys Gln Thr
60 65 70

aaa ctc ggt tgc tct aag gtc ctg gtt cct gag aaa ctg acc cag aga 475
Lys Leu Gly Cys Ser Lys Val Leu Val Pro Glu Lys Leu Thr Gln Arg
75 80 85

att gcc caa gat gtc ctg cgg ctc tca tcc aca gag ccc tgc ggc ctt 523
Ile Ala Gln Asp Val Leu Arg Leu Ser Ser Thr Glu Pro Cys Gly Leu
90 95 100

cgg ggc tgt gtt atg cac gtg aac ttg gaa att gaa aat gtg tgt aaa 571
Arg Gly Cys Val Met His Val Asn Leu Glu Ile Glu Asn Val Cys Lys
105 110 115

aag ctg gat agg att gtg tgt gat gct agt gtg gtg ccg acc ttt gag 619
Lys Leu Asp Arg Ile Val Cys Asp Ala Ser Val Val Pro Thr Phe Glu
120 125 130 135

ctc acg ctg gtg ttc aag cag gag agc tgc tcc tgg acc agc ctc aag 667
Leu Thr Leu Val Phe Lys Gln Glu Ser Cys Ser Trp Thr Ser Leu Lys
140 145 150

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gac ttc ttc ttt agc gga ggt cgc ttc tcg tcg ggc ctt aag cga act      715
Asp Phe Phe Phe Ser Gly Gly Arg Phe Ser Ser Gly Leu Lys Arg Thr
            155                 160                 165

ctg atc ctc agc tcg gga ttt cga ctt gtt aag aaa aaa ctg tac tct      763
Leu Ile Leu Ser Ser Gly Phe Arg Leu Val Lys Lys Lys Leu Tyr Ser
        170                 175                 180

ctg att gga acg aca gtc att gag gag tgc tga ggaggaaaaa acaattaaag    816
Leu Ile Gly Thr Thr Val Ile Glu Glu Cys  *
    185                 190

gtccctaatg agtggctaac aaaaanaaaa nnnnnnnnnn nnnnngcggn c             867
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<210> 4
<211> 193
<212> PRT
<213> Rattus norvegicus

<400> 4

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Met Val Ala Thr Gly Ser Leu Ser Ser Lys Asn Thr Ala Ser Ile Ser
 1               5                  10                  15
Glu Leu Leu Asp Gly Gly Ser His Pro Gly Ser Leu Leu Ser Asp Phe
            20                  25                  30
Asp Tyr Trp Asp Tyr Val Val Pro Glu Pro Asn Leu Asn Glu Val Val
        35                  40                  45
Phe Glu Glu Thr Thr Cys Gln Asn Leu Val Lys Met Leu Glu Asn Cys
    50                  55                  60
Leu Ser Lys Ser Lys Gln Thr Lys Leu Gly Cys Ser Lys Val Leu Val
65                  70                  75                  80
Pro Glu Lys Leu Thr Gln Arg Ile Ala Gln Asp Val Leu Arg Leu Ser
                85                  90                  95
Ser Thr Glu Pro Cys Gly Leu Arg Gly Cys Val Met His Val Asn Leu
            100                 105                 110
Glu Ile Glu Asn Val Cys Lys Lys Leu Asp Arg Ile Val Cys Asp Ala
        115                 120                 125
Ser Val Val Pro Thr Phe Glu Leu Thr Leu Val Phe Lys Gln Glu Ser
    130                 135                 140
Cys Ser Trp Thr Ser Leu Lys Asp Phe Phe Phe Ser Gly Gly Arg Phe
145                 150                 155                 160
Ser Ser Gly Leu Lys Arg Thr Leu Ile Leu Ser Ser Gly Phe Arg Leu
                165                 170                 175
Val Lys Lys Lys Leu Tyr Ser Leu Ile Gly Thr Thr Val Ile Glu Glu
            180                 185                 190
Cys
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<210> 5
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<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (42)...(752)

<400> 5

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                                               Met Lys Ala Leu Arg
                                                1               5

gct gtc ctc ctg atc ttg cta ctc agt gga cag cca ggg agc agc tgg      104
Ala Val Leu Leu Ile Leu Leu Leu Ser Gly Gln Pro Gly Ser Ser Trp
                10                  15                  20

gca caa gaa gct ggc gat gtg gac ctg gag cta gag cgc tac agc tac      152
Ala Gln Glu Ala Gly Asp Val Asp Leu Glu Leu Glu Arg Tyr Ser Tyr
            25                  30                  35

gat gat gac ggt gat gac gat gat gac gat gat gaa gaa gag gaa gag      200
Asp Asp Asp Gly Asp Asp Asp Asp Asp Asp Asp Glu Glu Glu Glu Glu
        40                  45                  50

gag gag acc aac atg atc cct ggc agc agg gac aga gca ccg cct cta      248
Glu Glu Thr Asn Met Ile Pro Gly Ser Arg Asp Arg Ala Pro Pro Leu
    55                  60                  65

cag tgc tac ttc tgc caa gtg ctt cac agc ggg gag agc tgc aac gag      296
Gln Cys Tyr Phe Cys Gln Val Leu His Ser Gly Glu Ser Cys Asn Glu
70                  75                  80                  85

aca cag aga tgc tcc agc agc aag ccc ttc tgt atc aca gtc atc tcc      344
Thr Gln Arg Cys Ser Ser Ser Lys Pro Phe Cys Ile Thr Val Ile Ser
                90                  95                  100

cat ggc aaa act gac aca ggt gtc ctg acg acc tac tcc atg tgg tgt      392
His Gly Lys Thr Asp Thr Gly Val Leu Thr Thr Tyr Ser Met Trp Cys
            105                 110                 115

act gat acc tgc cag ccc atc gtg aag aca gtg gac agc acc caa atg      440
Thr Asp Thr Cys Gln Pro Ile Val Lys Thr Val Asp Ser Thr Gln Met
        120                 125                 130

acc cag acc tgt tgc cag tcc aca ctc tgc aat att cca ccc tgg cag      488
Thr Gln Thr Cys Cys Gln Ser Thr Leu Cys Asn Ile Pro Pro Trp Gln
    135                 140                 145

agc ccc caa atc cac aac cct ctg ggt ggc cgg gca gac agc ccc ttg      536
Ser Pro Gln Ile His Asn Pro Leu Gly Gly Arg Ala Asp Ser Pro Leu
150                 155                 160                 165

aag ggt ggg acc aga cat cct caa ggt gac agg ttt agc cac ccc cag      584
Lys Gly Gly Thr Arg His Pro Gln Gly Asp Arg Phe Ser His Pro Gln
                170                 175                 180

gtt gtc aag gtt act cat cct cag agt gat ggg gct cac ttg tct aag      632
Val Val Lys Val Thr His Pro Gln Ser Asp Gly Ala His Leu Ser Lys
            185                 190                 195

ggt ggc aag gct aac cag ccc cag gga aat ggg gcc gga ttc cct gca      680
Gly Gly Lys Ala Asn Gln Pro Gln Gly Asn Gly Ala Gly Phe Pro Ala
        200                 205                 210
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ggc tgg agc aaa ttt ggt aac gta gtt ctc ctg ctc acc ttc ctc acc      728
Gly Trp Ser Lys Phe Gly Asn Val Val Leu Leu Leu Thr Phe Leu Thr
    215                 220                 225

agt ctg tgg gca tca ggg gcc taa agactcgtcc tcccccaacc aggacccttc     782
Ser Leu Trp Ala Ser Gly Ala  *
230                 235

agcctttcct ccctgacaac cagcttcaga gaataaactt gaatgtcttt tgccatctaa    842
aaaaaaaaaa aaaaaaaaaa aaagcggccg cc                                  874

<210> 6
<211> 236
<212> PRT
<213> Rattus norvegicus

<400> 6
Met Lys Ala Leu Arg Ala Val Leu Leu Ile Leu Leu Leu Ser Gly Gln
 1               5                  10                  15
Pro Gly Ser Ser Trp Ala Gln Glu Ala Gly Asp Val Asp Leu Glu Leu
            20                  25                  30
Glu Arg Tyr Ser Tyr Asp Asp Asp Gly Asp Asp Asp Asp Asp Asp Asp
        35                  40                  45
Glu Glu Glu Glu Glu Glu Glu Thr Asn Met Ile Pro Gly Ser Arg Asp
    50                  55                  60
Arg Ala Pro Pro Leu Gln Cys Tyr Phe Cys Gln Val Leu His Ser Gly
65                  70                  75                  80
Glu Ser Cys Asn Glu Thr Gln Arg Cys Ser Ser Ser Lys Pro Phe Cys
                85                  90                  95
Ile Thr Val Ile Ser His Gly Lys Thr Asp Thr Gly Val Leu Thr Thr
            100                 105                 110
Tyr Ser Met Trp Cys Thr Asp Thr Cys Gln Pro Ile Val Lys Thr Val
        115                 120                 125
Asp Ser Thr Gln Met Thr Gln Thr Cys Cys Gln Ser Thr Leu Cys Asn
    130                 135                 140
Ile Pro Pro Trp Gln Ser Pro Gln Ile His Asn Pro Leu Gly Gly Arg
145                 150                 155                 160
Ala Asp Ser Pro Leu Lys Gly Gly Thr Arg His Pro Gln Gly Asp Arg
                165                 170                 175
Phe Ser His Pro Gln Val Val Lys Val Thr His Pro Gln Ser Asp Gly
            180                 185                 190
Ala His Leu Ser Lys Gly Gly Lys Ala Asn Gln Pro Gln Gly Asn Gly
        195                 200                 205
Ala Gly Phe Pro Ala Gly Trp Ser Lys Phe Gly Asn Val Val Leu Leu
    210                 215                 220
Leu Thr Phe Leu Thr Ser Leu Trp Ala Ser Gly Ala
225                 230                 235

<210> 7
<211> 817
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (135)...(320)
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<221> misc_feature
<222> (1)...(817)
<223> n = A,T,C or G

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gagctgcccc acagctctga ctgtggactg agggatgtta ggcggatcac ctgagcctcc 120
agaggctcac acta atg agc ggg cgc tct ctt ctt agc cac tgt tgc att 170
Met Ser Gly Arg Ser Leu Leu Ser His Cys Cys Ile
1 5 10

tgg ttt tca ttg act cct ggg cct cgt ttg agt gac act gtc ctt gtc 218
Trp Phe Ser Leu Thr Pro Gly Pro Arg Leu Ser Asp Thr Val Leu Val
15 20 25

ttt tgt ttc aga gct ctc cca gtg tta gtg gac tca gat gag gaa att 266
Phe Cys Phe Arg Ala Leu Pro Val Leu Val Asp Ser Asp Glu Glu Ile
30 35 40

atg acc aga tct gaa ata gct gaa aaa atg ttc tct tca gaa aag ata 314
Met Thr Arg Ser Glu Ile Ala Glu Lys Met Phe Ser Ser Glu Lys Ile
45 50 55 60

atg tga tcagggcccc agtgggtcca gtgtgcatgg gagcgcggtc aggtgatggg 370
Met *

aaaggcctgg ctctcgtcaa aactgacagc tgcgctatga tacatgtctc actttgttgt 430
cttggagatc tgtgtatgca ggtgaagaac tcaagtgtgg gagggtctgc cgcctcagaa 490
agccatcttt gaaacggact cataaagtca gttttgttgc cattaagttg cctgattttg 550
gaaacaattt aagaagtgtt aaagacatgt gttcagatgc ctcttaggcg gcagccacag 610
gcatgccagg ttgtgtccct cagttttctc cagacaaaag aatctgcagc tgggcgtggc 670
ggcacactac tggcagttga aagtctgtaa tttcaaggcc aagcctggtc tacatagttc 730
caggacaacc agagagatct acatagtgag accctgcctc aaaacacaga aaccnnanna 790
naaaaaaaaa aaaaaaaaag cggccgc 817

<210> 8
<211> 61
<212> PRT
<213> Rattus norvegicus

<400> 8
Met Ser Gly Arg Ser Leu Leu Ser His Cys Cys Ile Trp Phe Ser Leu
1 5 10 15
Thr Pro Gly Pro Arg Leu Ser Asp Thr Val Leu Val Phe Cys Phe Arg
20 25 30
Ala Leu Pro Val Leu Val Asp Ser Asp Glu Glu Ile Met Thr Arg Ser
35 40 45
Glu Ile Ala Glu Lys Met Phe Ser Ser Glu Lys Ile Met
50 55 60

<210> 9
<211> 755
<212> DNA
<213> Rattus norvegicus

<220>

<221> CDS
<222> (139)...(378)

<221> misc_feature
<222> (1)...(755)
<223> n = A,T,C or G

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atgaggctgg ttactcagca ggagtagctg agctgagctg gccctggagg ccctggaggc 120
cctggagtag ggcccagg atg cag gtg cta atg tct atc ccc ggc gct ctt 171
Met Gln Val Leu Met Ser Ile Pro Gly Ala Leu
1 5 10

ctt ccc gac tct acc atg gga tgt aac tcc agg agc ccc tgc cat ctc 219
Leu Pro Asp Ser Thr Met Gly Cys Asn Ser Arg Ser Pro Cys His Leu
15 20 25

ccg tac caa aag act gtg gct tcc gtg tct act cag aaa tca gtt cta 267
Pro Tyr Gln Lys Thr Val Ala Ser Val Ser Thr Gln Lys Ser Val Leu
30 35 40

ctt cgt aaa cag tgt tta aaa cca gac tca ttt aat cag agt gaa gga 315
Leu Arg Lys Gln Cys Leu Lys Pro Asp Ser Phe Asn Gln Ser Glu Gly
45 50 55

ttg cag tcc att ggc ttc tta gca cag aag cag ctg ata aca caa gta 363
Leu Gln Ser Ile Gly Phe Leu Ala Gln Lys Gln Leu Ile Thr Gln Val
60 65 70 75

aac ccc agc cct tga gaggtagaag caagaggatc agaggttcaa gcgcatcctc 418
Asn Pro Ser Pro *

ggctccatca caagttcaaa agccgcctgc accaaatggg agtccttgtc tcaaaaaaaa 478
aaaaaaaaaa agcaaagaaa gcaaaggact cgatgacatg atttatagac aaaagcagtg 538
ggagaaaata ctaaagcccc actgagctgc cagccaggtg tctgtgacta caggtctttt 598
atctgctcat atatattttt acaaaaaatg aaattcatat tggtcgctat tttgctggct 658
gctttgctcc cgatcaacat gatttgcacg ttttttccat caataaatgt gccatgatat 718
ttttaaaaaa aaaaaaaaaa aaaaaaaaaa gggcncc 755

<210> 10
<211> 79
<212> PRT
<213> Rattus norvegicus

<400> 10
Met Gln Val Leu Met Ser Ile Pro Gly Ala Leu Leu Pro Asp Ser Thr
1 5 10 15
Met Gly Cys Asn Ser Arg Ser Pro Cys His Leu Pro Tyr Gln Lys Thr
20 25 30
Val Ala Ser Val Ser Thr Gln Lys Ser Val Leu Leu Arg Lys Gln Cys
35 40 45
Leu Lys Pro Asp Ser Phe Asn Gln Ser Glu Gly Leu Gln Ser Ile Gly
50 55 60
Phe Leu Ala Gln Lys Gln Leu Ile Thr Gln Val Asn Pro Ser Pro
65 70 75

<210> 11
<211> 806
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (68)...(346)

<221> misc_feature
<222> (1)...(806)
<223> n = A,T,C or G

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tctagcgaac cccttcgcag ctctctgacc tgcgtcgccg ccgctctccg ctcttgattt 60
cgccgtg atg tcg acc gca atg aac ttc ggg acc aaa agc ttc cag ccg 109
Met Ser Thr Ala Met Asn Phe Gly Thr Lys Ser Phe Gln Pro
1 5 10

cgg ccc cca gac aaa ggc agc ttc ccg cta gac cac ttc ggt gag tgt 157
Arg Pro Pro Asp Lys Gly Ser Phe Pro Leu Asp His Phe Gly Glu Cys
15 20 25 30

aaa agc ttt aag gaa aaa ttc atg aag tgt ctc cgc gac aag aac tat 205
Lys Ser Phe Lys Glu Lys Phe Met Lys Cys Leu Arg Asp Lys Asn Tyr
35 40 45

gaa aat gct ctg tgc aga aat gaa tct aaa gag tat tta atg tgc agg 253
Glu Asn Ala Leu Cys Arg Asn Glu Ser Lys Glu Tyr Leu Met Cys Arg
50 55 60

atg caa agg cag ctg atg gca cca gaa cca cta gag aaa ctc ggc ttt 301
Met Gln Arg Gln Leu Met Ala Pro Glu Pro Leu Glu Lys Leu Gly Phe
65 70 75

aga gac ata atg gag gag aaa ccg gag gca aag gac aaa tgt tga 346
Arg Asp Ile Met Glu Glu Lys Pro Glu Ala Lys Asp Lys Cys *
80 85 90

gaatcactgg gctgtgtccc cctacctgga gcagagctga gcccttctgc ccaccgtgga 406
gagagctgag ccatcctgtg ctgcccagag gaggggctct ccgtgtcgac tttggctcat 466
ccctgcagca cagaccaaac tgctttctct actgaccaca cttctgcttc agagagnggt 526
ttctcctgtc tgngtgtggc acaggatctg ctcanggctg aacactgatg tgatatgata 586
tcccacctag tgtggccgca caccaaaagg cctggacagg atttcacagt gactcaacct 646
gagtcctcac acccggaacc tgtcagcgaa aaccaancga agcaaaatgn ctggcttttg 706
gcttacaaac cccatnattt gntttccctt ctcttgggtc tttgttttga caaanctggc 766
atacaaagtn ggaaggggga aataaaaaaa aaaaaaaaaa 806

<210> 12
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<212> DNA
<213> Rattus norvegicus

<220>
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<221> misc_feature
<222> (1)...(717)
<223> n = A,T,C or G

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ccgccggtgg tggctggtgg ccgcaatctt ggtggtcctg atcggggttg tcttagtctg 120
cctgatagtc tacttcgcca acgcagcgca cagcgaggcc tgtaagaacg ggttgcggtt 180
gcaggatgag tgccgaaaca ccacgcacct gttgaagcac cagctnaccc gcgcccagga 240
cagcctgctg cagacggag atg cag gca aac tcc tgc aac cag acc gtg atg 292
Met Gln Ala Asn Ser Cys Asn Gln Thr Val Met
1 5 10

gac ctt cgg gat tcc ctg aag aag aag gtg tct naa acc cag gag caa 340
Asp Leu Arg Asp Ser Leu Lys Lys Lys Val Ser Xaa Thr Gln Glu Gln
15 20 25

can gcc cgc atc aag gaa ctt gag aat aag atc gag agg ctg aac caa 388
Xaa Ala Arg Ile Lys Glu Leu Glu Asn Lys Ile Glu Arg Leu Asn Gln
30 35 40

gag ctg gag aaa ttt gag gac cca aaa gga aat ttc tac cac agt gca 436
Glu Leu Glu Lys Phe Glu Asp Pro Lys Gly Asn Phe Tyr His Ser Ala
45 50 55

ngt gaa ctc aag cgg gtt cgt ggt ggn ctt can cct act tgt gct ttg 484
Xaa Glu Leu Lys Arg Val Arg Gly Gly Leu Xaa Pro Thr Cys Ala Leu
60 65 70 75

tgg cgg gac tgt tct nca ctt ttt ang acc caa taa ttgggangta 530
Trp Arg Asp Cys Ser Xaa Leu Phe Xaa Thr Gln *
80 85

caaacctgtg taggcattgn nggtngtaat ggcttttgag ggggtcctgg cacccttaag 590
atgtgaanac cattangnng gacccaaaat gnnttttctt gntttgaact ggggcggacc 650
cggagtgggg ggcnggaaat aanntattnn ggnnggaaan aaaaaaaaaa aaaaaaaaaa 710
gcggccc 717

<210> 13
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<212> DNA
<213> Rattus norvegicus

<220>
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<222> (53)...(163)

<221> misc_feature
<222> (1)...(1235)
<223> n = A,T,C or G

<400> 13
tctagcgaac cccttcgccc agctgctaga agccaggctg gcctggtgag gc atg agc 58
Met Ser
1

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atg aag atg aac cca ggt gac aag gac aag atg ttg ctc ttc tcc cca      106
Met Lys Met Asn Pro Gly Asp Lys Asp Lys Met Leu Leu Phe Ser Pro
         5                  10                  15

ccc ttt gac ccc tgt ctt cta agg cat cta gga agg aac cag tgt cct      154
Pro Phe Asp Pro Cys Leu Leu Arg His Leu Gly Arg Asn Gln Cys Pro
     20                  25                  30

tgg tac tga tttacttaga ttcaacctaa gggtccagcc actgactaag             203
Trp Tyr  *
 35

gccaaggcca tttttccata cctgggaggg tagagattca gggttgtggg taagtgggca    263
ctaaacatgg atttgcaagg gaaaacgaca gggcatcgag ctaaatttga atttacatga    323
aattctgaaa tgtacttgta tgaagaaact gttatctgaa acctaactta aatgggcatc    383
ctgccttttg tctggtgaga aatgaaagtg atctacaata agtgtcaaag caacaaggcc    443
cctctggata tgtctaggcc aggatgagga tactaagtgc cttcaaagcg agagggaggc    503
aggccaagaa cactgcccta ctgaaaggca ggcttggccg gctagggcct ccaaggccct    563
gatccctgag gcaccacagc cacaacttgt gtaggcctgg cccaggtcag tgaataggtt    623
ctaggcagtg gttctcaacc ttcctaatgc tgcaaccctt caatacagtt tctcctgttg    683
tagtaatccc caaccataaa attattttca ttgcgacttc ataactggac ttttgctact    743
gttatgaatc ataatgtaaa tatttttttgg agctagaggt ttaccaaggg ggttgtgagc    803
cataggttga aaaccattgt tctaggaata gctccagggg tggtttctga ggcccccgca    863
aggtgggatc tatggggcag ggttggatct tctccaagag cccccaacag gatatatata    923
tatatatata tatatatata tatatatata tatatatata tactttgata gcatcccatg    983
gaacgactgt ctcctgatac taaagggagc ttggaagaaa ccaaggctga gagaagttgt   1043
agagtgggaa ggtaggcgaa gggattgagg tgacacagtg atagcccctt cagggtgggg   1103
tctacccnag acagcagata aaggccttag gatgggagat tactctggct gctcagaggg   1163
gaacacaggg acacagcacc aataaaatct ctttcttttc aaaaaaaaaa aaaaaaaaaa   1223
aaaaagcggn cc                                                       1235

<210> 14
<211> 633
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (359)...(631)

<400> 14
tctagcgaac cccttcgatt ttattagctc ttgcttctcc attcctcata atttatgaat     60
tatacagcct tcgcttgaat acgcgtctga agttatgctt tgtgttgttg tgggtttttt    120
ttttttttte ttttcttttt ttttggagct ggggaccgaa cccagggcct tgttgctcta    180
ccactgagct aaatccccaa cccctgttgt gtgttttaaa taagtctctt actgtccatt    240
ttgtaattag tgttgttacc ttgtaataat agacatcata caaagtttcc tctttttgt     300
gccagtgctg agaacatgag aaacatttaa tgagtatttg tttgttaaat aatatttta     358
taa cgg cta gaa tgg cag aca cac atg gta gca cat gat ggt gat ttt      406
 *  Arg Leu Glu Trp Gln Thr His Met Val Ala His Asp Gly Asp Phe
    1               5                  10                  15

cgg ggg cct ttt gtt tgc tca gag ctg gta atc tct gcc ggt tgg ttt      454
Arg Gly Pro Phe Val Cys Ser Glu Leu Val Ile Ser Ala Gly Trp Phe
            20                  25                  30

gct ttg cct ggt ctg gga cta acc tca cat ttt ctc act ctt gct ttc      502
Ala Leu Pro Gly Leu Gly Leu Thr Ser His Phe Leu Thr Leu Ala Phe
```

```
            35                  40                  45

cga gag att agt cat cct tcc tgt cct act ggg ctc tcg ata gcg ctc      550
Arg Glu Ile Ser His Pro Ser Cys Pro Thr Gly Leu Ser Ile Ala Leu
         50                  55                  60

atc agc ata ctg cat ttc aat ccc agc gaa ggg gtt cgc cga agg ggt      598
Ile Ser Ile Leu His Phe Asn Pro Ser Glu Gly Val Arg Arg Arg Gly
     65                  70                  75

tcg cta ggc cag tgt gat gga tat ctg cag aat tc                      633
Ser Leu Gly Gln Cys Asp Gly Tyr Leu Gln Asn
 80                  85                  90


<210> 15
<211> 607
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (203)...(451)

<221> misc_feature
<222> (1)...(607)
<223> n = A,T,C or G

<400> 15
tctagcgaac cccttcgcct ttctccaaag ccttcccgtt tcctcttgac agctacgggc     60
tgaggcagcc attcctgcag cagcgctcgg ccggtgaagg gccgaactga cgcctcctag    120
atctgtctcg gctgaattac tctcacccgt ttccattctg tgtgcaccag aaatctgaga    180
tccaggagta tcaacagcaa ag atg tct aat gag cca ccc cct cct tat cca      232
                        Met Ser Asn Glu Pro Pro Pro Pro Tyr Pro
                         1               5                  10

gga ggg cct aca gcc cca cta ctg gag gaa aaa agt gga gcc cca cat      280
Gly Gly Pro Thr Ala Pro Leu Leu Glu Glu Lys Ser Gly Ala Pro His
                15                  20                  25

acc cca ggc cga acc ttt cca gct gtg atg cag cca cca cca ggc atg      328
Thr Pro Gly Arg Thr Phe Pro Ala Val Met Gln Pro Pro Pro Gly Met
            30                  35                  40

cca ctg ccc tct gtt gac att gcc ccc ccg ccc tat gag ccg cct ggc      376
Pro Leu Pro Ser Val Asp Ile Ala Pro Pro Pro Tyr Glu Pro Pro Gly
        45                  50                  55

cat cca ggg cct aag cct ggt ttw atg ccc ccc acn tta cca cac att      424
His Pro Gly Pro Lys Pro Gly Xaa Met Pro Pro Thr Leu Pro His Ile
    60                  65                  70

cna ana acc ttn ntn tgt aaa agt taa ataanaangg agggattcga            471
Xaa Xaa Thr Xaa Xaa Cys Lys Ser  *
 75                  80

ncccccctnca acnggtttca agccaattty mtaaccattt tgttttttttc wtttaaaaaa  531
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaag gggaaaaaaa aaaaaaaaaa    591
aaaaaagggg ggcccc                                                   607

<210> 16
<211> 1456
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (36)...(1424)

<221> misc_feature
<222> (1)...(1456)
<223> n = A,T,C or G

<400> 16
tctagcgaac cccttcgcaa agtcctaagc cttac atg aga aaa ttt aag aca        53
                                       Met Arg Lys Phe Lys Thr
                                        1               5

ccc tta atg att gcg gaa gaa aaa tac aga caa caa agg gaa gag ctt      101
Pro Leu Met Ile Ala Glu Glu Lys Tyr Arg Gln Gln Arg Glu Glu Leu
            10                  15                  20

gag aaa cag aga cgg gag agt tct tgc cat agc atc atc aaa aca gaa      149
Glu Lys Gln Arg Arg Glu Ser Ser Cys His Ser Ile Ile Lys Thr Glu
        25                  30                  35

acc cag cac cgc agc tta tca gag aaa gag aaa gaa aca gag tta caa      197
Thr Gln His Arg Ser Leu Ser Glu Lys Glu Lys Glu Thr Glu Leu Gln
    40                  45                  50

aaa gca gct gag gca atg tcc act ccc aga aag gat tca gac ttc act      245
Lys Ala Ala Glu Ala Met Ser Thr Pro Arg Lys Asp Ser Asp Phe Thr
55                  60                  65                  70

agg gca cag ccc aac ctg gaa cct aaa agc aag gct gtg atc gcc agt      293
Arg Ala Gln Pro Asn Leu Glu Pro Lys Ser Lys Ala Val Ile Ala Ser
                75                  80                  85

gaa tgc tct gaa agc cag ctc tct aca gct tcc gca ttg aca gtc gct      341
Glu Cys Ser Glu Ser Gln Leu Ser Thr Ala Ser Ala Leu Thr Val Ala
            90                  95                  100

acc gag agg ctc cag cat gtt cta gcc gct tca gac gat aag ctt acc      389
Thr Glu Arg Leu Gln His Val Leu Ala Ala Ser Asp Asp Lys Leu Thr
        105                 110                 115

ctg cga cgg gaa ggc aca cag aac tca agt gac acc cta caa tcg aaa      437
Leu Arg Arg Glu Gly Thr Gln Asn Ser Ser Asp Thr Leu Gln Ser Lys
    120                 125                 130

aca gct tgt gag att aac cag agt cac aag gaa tgt agg aca gag caa      485
Thr Ala Cys Glu Ile Asn Gln Ser His Lys Glu Cys Arg Thr Glu Gln
135                 140                 145                 150
```

```
aca ttt gag caa cac gtg gag aag ttg ccc ttc ccc caa acc aaa ccc      533
Thr Phe Glu Gln His Val Glu Lys Leu Pro Phe Pro Gln Thr Lys Pro
                155                 160                 165

att tcc ccg agt ttc aaa gtg aaa act atc agg ctt cca gct cta gat      581
Ile Ser Pro Ser Phe Lys Val Lys Thr Ile Arg Leu Pro Ala Leu Asp
            170                 175                 180

cat acg ctg act gaa aca gat ctc agt tct gaa cgc cgc gta aag caa      629
His Thr Leu Thr Glu Thr Asp Leu Ser Ser Glu Arg Arg Val Lys Gln
        185                 190                 195

tcc gaa att gac gtt caa acc agt act aaa gaa atg aat aag gaa att      677
Ser Glu Ile Asp Val Gln Thr Ser Thr Lys Glu Met Asn Lys Glu Ile
    200                 205                 210

aag aaa acc gaa gtg agc aca cag tgt gat aat aag caa tct gtg gct      725
Lys Lys Thr Glu Val Ser Thr Gln Cys Asp Asn Lys Gln Ser Val Ala
215                 220                 225                 230

gaa aaa tat ttt caa tta cct aaa aca gag aaa cgg gtg acg gta caa      773
Glu Lys Tyr Phe Gln Leu Pro Lys Thr Glu Lys Arg Val Thr Val Gln
                235                 240                 245

atg ccc aaa gac tat gca gcg aaa agt cat caa agc aaa ctc caa aca      821
Met Pro Lys Asp Tyr Ala Ala Lys Ser His Gln Ser Lys Leu Gln Thr
            250                 255                 260

gtt ccc aag aag cat gga gga ttg ggg gag ttt gac aga ggg aat gtc      869
Val Pro Lys Lys His Gly Gly Leu Gly Glu Phe Asp Arg Gly Asn Val
        265                 270                 275

ctg ggg agg gaa gga aaa aat cag gac tcc tcc atg agc agt aca aaa      917
Leu Gly Arg Glu Gly Lys Asn Gln Asp Ser Ser Met Ser Ser Thr Lys
    280                 285                 290

gaa agc agg gta ata gtt gaa aga aag caa gaa cat cta cag gac cag      965
Glu Ser Arg Val Ile Val Glu Arg Lys Gln Glu His Leu Gln Asp Gln
295                 300                 305                 310

agc gta cca agg tta gtc caa caa aag att atc ggt gaa agc ctg gac     1013
Ser Val Pro Arg Leu Val Gln Gln Lys Ile Ile Gly Glu Ser Leu Asp
                315                 320                 325

tca cgg gtt cag aat ttt cag cag aca caa aca caa act tct agg att     1061
Ser Arg Val Gln Asn Phe Gln Gln Thr Gln Thr Gln Thr Ser Arg Ile
            330                 335                 340

gag cat aaa gaa ctg tcc caa cct tac agt gag aaa aaa tgt ctt aga     1109
Glu His Lys Glu Leu Ser Gln Pro Tyr Ser Glu Lys Lys Cys Leu Arg
        345                 350                 355

gac aag gac aaa caa caa aaa cag gtc tcc tct aac act gac gat tca     1157
Asp Lys Asp Lys Gln Gln Lys Gln Val Ser Ser Asn Thr Asp Asp Ser
    360                 365                 370

aag caa gag ata aca caa aaa caa tct tca ttt tcc tct gtg aga gaa     1205
```

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Lys Gln Glu Ile Thr Gln Lys Gln Ser Ser Phe Ser Ser Val Arg Glu
375                 380                 385                 390

tcc cag cag gat gga gaa aaa tgt gcc ata aaa ata ttg gaa ttc ttg     1253
Ser Gln Gln Asp Gly Glu Lys Cys Ala Ile Lys Ile Leu Glu Phe Leu
                395                 400                 405

aga aaa cgt gaa gaa cta cag cag att ttg tct agg gta aaa cag ttt     1301
Arg Lys Arg Glu Glu Leu Gln Gln Ile Leu Ser Arg Val Lys Gln Phe
            410                 415                 420

gaa gca gat tca aat aaa agt ggc ctt aaa aca ttt cag aca ctg tta     1349
Glu Ala Asp Ser Asn Lys Ser Gly Leu Lys Thr Phe Gln Thr Leu Leu
        425                 430                 435

aat att gct ccg gtg tgg ctg ata agt gag gag aaa aga gaa tat gga     1397
Asn Ile Ala Pro Val Trp Leu Ile Ser Glu Glu Lys Arg Glu Tyr Gly
    440                 445                 450

gtt cgt gtt gcc atg gag aat aat tag aaaaaataaa aaaaaaaaaa           1444
Val Arg Val Ala Met Glu Asn Asn  *
455                 460

aaaagcggcg nc                                                      1456

<210> 17

<400> 17
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<210> 18
<211> 2023
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (243)...(755)

<221> misc_feature
<222> (1)...(2023)
<223> n = A,T,C or G

<400> 18
gaattgtaat acgactcact atagggcgaa ttgggcccct agcgaacccc ttcgacaaca     60
tcaaagagga cagatctaac cctagactga ggccggaggc ctggaccaat tacctgaggg    120
atgtccacag agcctttgca ctgctgaaca gtcaccctga tccaaaccaa gtaaatggga    180
ctccaactgc accaagcagt ggcctcccag tcacctctgc tgagctcttg gtgccggcag    240
ag atg gct tct gca gag tca ggt gaa gac cca agt cat gtg gtt ggg        287
   Met Ala Ser Ala Glu Ser Gly Glu Asp Pro Ser His Val Val Gly
    1               5                  10                  15

gaa acg cct cct ttg acc ttg cca gcc aac ctc caa acc ctg cat ccg      335
Glu Thr Pro Pro Leu Thr Leu Pro Ala Asn Leu Gln Thr Leu His Pro
                20                  25                  30

aac aga cca acg ttg agt cca gag aga aaa ctt gaa tgg aat aac gac      383
```

```
Asn Arg Pro Thr Leu Ser Pro Glu Arg Lys Leu Glu Trp Asn Asn Asp
            35                  40                  45

att cca gaa gtg aat cgt ttg aat tct gaa cac tgg aga aaa act gag      431
Ile Pro Glu Val Asn Arg Leu Asn Ser Glu His Trp Arg Lys Thr Glu
        50                  55                  60

gag cag cca gga cgg ggg gag gtg ctt ctc ccc gaa ggt gac gtc agt      479
Glu Gln Pro Gly Arg Gly Glu Val Leu Leu Pro Glu Gly Asp Val Ser
    65                  70                  75

ggc aac ggt atg aca gag ctg ttg ccc atc ggt cgg cac caa caa aag      527
Gly Asn Gly Met Thr Glu Leu Leu Pro Ile Gly Arg His Gln Gln Lys
80                  85                  90                  95

cgt ccc cac gat gcg ggg cca gag gac cat gct ttt gaa gat caa ttg      575
Arg Pro His Asp Ala Gly Pro Glu Asp His Ala Phe Glu Asp Gln Leu
                100                 105                 110

cat cct ctc gtc cac tct gac aga act ccc gtt cat cgg gtg ttc gat      623
His Pro Leu Val His Ser Asp Arg Thr Pro Val His Arg Val Phe Asp
            115                 120                 125

gtg tcc cac ttg gag cag cct gtt cac tcc agc cac gtg gaa gga atg      671
Val Ser His Leu Glu Gln Pro Val His Ser Ser His Val Glu Gly Met
        130                 135                 140

ttg gcc aag atg gag ggg atg gca caa agg agt ggg cac caa gtc tcg      719
Leu Ala Lys Met Glu Gly Met Ala Gln Arg Ser Gly His Gln Val Ser
    145                 150                 155

aag gca gcg cct cct ctc cag tca ctt ctt gct tag attacatgtt           765
Lys Ala Ala Pro Pro Leu Gln Ser Leu Leu Ala  *
160                 165                 170

gcctaacaat gtttctttcc atgttttgat tagtaaacta actcgtggtg gcaatcatga    825
ctcccaacct tctgagctcc cccgggtacg cttgcaccgt agacgctcat gtgcgcaccg    885
tgcgggtgat gctcacacac agactcattg taattcaccg ttttaccgag aaggggggag    945
gggcgaattt tctgtgttga tgctttgttt ttggtactaa aacagnatta tcttttgaat   1005
attgtaggga catgagtata taaagtctat ccagtcaaaa tggctagaat tgngcctttg   1065
taagttttaa aaacttgatg cccacatgag tctgtgagca catntttccc gcctgcctaa   1125
cggagttgga atttgtttct aaccactgta attcttcaac atcatcacct ttggttcagt   1185
gattttgcac tttgagtttg gatactgtgt ctgcttggtt ggtagtgtta gtatttttct   1245
tttaaacagg cttatcagag ttgcacactt tgtcctaggc agggcaaagg aatagacgcc   1305
cagcaaggac acacagtata ggtaacatac tgcttatcgt acgcttttcc cacaaagcat   1365
tgcatgtgtt tttacctcga cgtgctaaag ttgattagca gaaaggcatg actcacaatt   1425
ttggtggtaa aaaataaacc ctgagggagc aagcaataac taaaacaaga ttgagctgct   1485
ctctctgtgc ttactaaata gatgctcgcc ctgctaatgc ttgccctctt gaaagaagaa   1545
acaggatgca cactgcttta tttcaatctt cctctttttt tcttggtttc accagtgagc   1605
gtaagcattg gaaaaatatg tgtagtctta tctttctata agacgatttt aataaactaa   1665
aatcacaaat gctgtaaagt ttgtgcgcac cagaatggag gctaacttca taaacattgt   1725
gctgtgcgaa tattcctaaa atgatcccca agctgtggtt ttctagaaga catagttcag   1785
aaccgctttt gaaaaatctg tcctcgtgag ctcactcagt ttctgtcgga cttttagaga   1845
cagtggaagg attacctcat tgagacgttt ccgtgtcctc ttcaactcca cagggtcttg   1905
acggtggctt tgtttttcct tctagactat tcaaacatgt agataagtta tatttttctt   1965
taagtgttta aagtaaacac ttttcaaaaa aaaaaaaaaa aaaaaaaaaa gcggccgc     2023
```

<210> 19
<211> 90
<212> PRT
<213> Rattus norvegicus

<400> 19
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Arg Leu Glu Trp Gln Thr His Met Val Ala His Asp Gly Asp Phe Arg
 1               5                  10                  15
Gly Pro Phe Val Cys Ser Glu Leu Val Ile Ser Ala Gly Trp Phe Ala
            20                  25                  30
Leu Pro Gly Leu Gly Leu Thr Ser His Phe Leu Thr Leu Ala Phe Arg
        35                  40                  45
Glu Ile Ser His Pro Ser Cys Pro Thr Gly Leu Ser Ile Ala Leu Ile
    50                  55                  60
Ser Ile Leu His Phe Asn Pro Ser Glu Gly Val Arg Arg Arg Gly Ser
65                  70                  75                  80
Leu Gly Gln Cys Asp Gly Tyr Leu Gln Asn
                85                  90
```

<210> 20
<211> 1802
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (30)...(809)

<221> sig_peptide
<222> (30)...(107)

<400> 20
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tctagcgaac cccttcgggg gttttcatc atg gag ctg tcg cgg cgg att tgt       53
                               Met Glu Leu Ser Arg Arg Ile Cys
                                   -25                 -20

ctc gtc cga ctg tgg ctg ttg cta ctg tca ttc tta ctg ggc ttc agc      101
Leu Val Arg Leu Trp Leu Leu Leu Leu Ser Phe Leu Leu Gly Phe Ser
            -15                 -10                  -5

gcg gga tct gcc ctc aac tgg cgg gaa caa gaa ggc aag gaa gta tgg      149
Ala Gly Ser Ala Leu Asn Trp Arg Glu Gln Glu Gly Lys Glu Val Trp
        1               5                   10

gat tac gtg act gtt cga gag gat gca cgc atg ttc tgg tgg ctc tac      197
Asp Tyr Val Thr Val Arg Glu Asp Ala Arg Met Phe Trp Trp Leu Tyr
-15             -   20                  25                  30

tat gcc acc aac cct tgc aag aac ttc tca gag ctg cct ctg gtc atg      245
Tyr Ala Thr Asn Pro Cys Lys Asn Phe Ser Glu Leu Pro Leu Val Met
                35                  40                  45

tgg ctt cag ggt ggt cca ggt ggt tct agc act gga ttt gga aac ttt      293
Trp Leu Gln Gly Gly Pro Gly Gly Ser Ser Thr Gly Phe Gly Asn Phe
            50                  55                  60

gag gaa atc ggc cct ctt gac acc cga ctc aag cca cgg aac act acc      341
```

```
Glu Glu Ile Gly Pro Leu Asp Thr Arg Leu Lys Pro Arg Asn Thr Thr
          65                  70                  75

tgg ctg cag tgg gcc agt ctc ctg ttc gtg gac aat cct gtg ggc acg      389
Trp Leu Gln Trp Ala Ser Leu Leu Phe Val Asp Asn Pro Val Gly Thr
     80                  85                  90

ggc ttc agt tac gtg aac acg aca gat gcc tac gca aag gac ctg gac      437
Gly Phe Ser Tyr Val Asn Thr Thr Asp Ala Tyr Ala Lys Asp Leu Asp
 95                 100                 105                 110

acg gtg gct tcc gac atg atg gtc ctc ctg aaa tcc ttc ttt gat tgt      485
Thr Val Ala Ser Asp Met Met Val Leu Leu Lys Ser Phe Phe Asp Cys
                115                 120                 125

cat aaa gaa ttc cag acg gtt ccg ttc tac att ttc tca gaa tcc tac      533
His Lys Glu Phe Gln Thr Val Pro Phe Tyr Ile Phe Ser Glu Ser Tyr
            130                 135                 140

gga gga aag atg gct gct ggc atc agt tta gaa ctt cac aag gct att      581
Gly Gly Lys Met Ala Ala Gly Ile Ser Leu Glu Leu His Lys Ala Ile
        145                 150                 155

cag caa ggg acc atc aag tgc aac ttc tct ggg gtt gct ttg ggt gac      629
Gln Gln Gly Thr Ile Lys Cys Asn Phe Ser Gly Val Ala Leu Gly Asp
    160                 165                 170

tcc tgg atc tcc cct gtg gat tca gtg ctg tcc tgg gga cct tac ctg      677
Ser Trp Ile Ser Pro Val Asp Ser Val Leu Ser Trp Gly Pro Tyr Leu
175                 180                 185                 190

tac agc gtg tct ctc ctt gat aat aaa ggc ttg gct gag gtg tcc gac      725
Tyr Ser Val Ser Leu Leu Asp Asn Lys Gly Leu Ala Glu Val Ser Asp
                195                 200                 205

att gcg gag caa gtc ctc aat gaa aaa caa ggg ctt cta caa gga agc      773
Ile Ala Glu Gln Val Leu Asn Glu Lys Gln Gly Leu Leu Gln Gly Ser
            210                 215                 220

cac tca gct gtg ggg gaa agc aga aat gat cat tga aaagaacacc           819
His Ser Ala Val Gly Glu Ser Arg Asn Asp His  *
        225                 230

gacggggtaa acttctataa catcttaact aaaagcaccc ccgacacctc tatggagtcg    879
agcctcgagt tcttccggag ccccttagtt cgtctctgtc agcgccacgt gagacaccta    939
caaggagacg ccttaagtca gctcatgaac ggtcccatca aaaagaagct caaaattatc    999
cctgacgacg tctcctgggg agcccagtcg tcctccgtct tcataagcat ggaagaggac   1059
ttcatgaagc ctgtcatcga catcgtggat acgttgctgg aactcggggt caatgtgact   1119
gtgtacaatg ggcagctgga tctcattgtg gacaccatag gtcaggagtc ctgggttcag   1179
aagctgaagt ggccacagct gtccagattc aatcagctaa aatggaaggc cctgtacacc   1239
gatcctaagt cttcagaaac atctgcattt gtcaagtcct atgagaacct agcgttctac   1299
tggatcctaa aggcgggtca catggttcct gctgaccaag gggacatggc tctgaagatg   1359
atgaggctgg ttactcagca ggagtagctg agctgagctg gccctggagg ccctggaggc   1419
cctggagtag ggcccaggat gcaggtgcta atgtctatcc ccggcgctct tcttcccgac   1479
tctaccatgg gatgtaactc caggagcccc tgccatctcc cgtaccaaaa gactgtggct   1539
tccgtgtcta ctcagaaatc agttctactt cgtaaacagt gtttaaaacc agactcattt   1599
aatcagagtg aaggattgca gtccattggc ttcttagcac agaagcagct gataacacaa   1659
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gtaaacccca gcccttgaga ggtagaagca agaggatcag aggttcaagc gcatcctcgg   1719
ctccatcaca agttcaaaag ccgcctgcac caaatgggag tccttgtctc aaaaaaaaaa   1779
aaaaaaaaaa aaaaagcggc cgc                                          1802

<210> 21
<211> 82
<212> PRT
<213> Rattus norvegicus

<220>
<221> VARIANT
<222> (1)...(82)
<223> Xaa = Any Amino Acid

<400> 21
Met Ser Asn Glu Pro Pro Pro Pro Tyr Pro Gly Gly Pro Thr Ala Pro
 1               5                  10                  15
Leu Leu Glu Glu Lys Ser Gly Ala Pro His Thr Pro Gly Arg Thr Phe
            20                  25                  30
Pro Ala Val Met Gln Pro Pro Pro Gly Met Pro Leu Pro Ser Val Asp
        35                  40                  45
Ile Ala Pro Pro Pro Tyr Glu Pro Pro Gly His Pro Gly Pro Lys Pro
    50                  55                  60
Gly Xaa Met Pro Pro Thr Leu Pro His Ile Xaa Xaa Thr Xaa Xaa Cys
65                  70                  75                  80
Lys Ser

<210> 22
<211> 630
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(630)
<223> n = A,T,C or G

<221> CDS
<222> (91)...(183)

<400> 22
tctagcgaac cccttcgcga aggggttcgc taggttgcgt ttgtggagaa aaatctgttc     60
tacctcaggg ctgtgagaac ggcactcctg atg tct gag aaa gag aaa caa gat     114
                                  Met Ser Glu Lys Glu Lys Gln Asp
                                   1               5

tgg ctg aag gat cct ccg ttc ctt cag aga cct ggg tgg aga gca tta      162
Trp Leu Lys Asp Pro Pro Phe Leu Gln Arg Pro Gly Trp Arg Ala Leu
     10                  15                  20

ggg aca cga aga aca gag tag cggaagaaga gttcttaagt aataagttta        213
Gly Thr Arg Arg Thr Glu  *
 25                  30

cctcctgact ggctcacatc actgccttac tctgtagaaa gcaggtcatc tcatggattt    273
ccccctccca ccccccccagc tggatcattt tttgactcag ggaaaataat taaattattg   333
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tccaactgtt agtgttgatc ggtaacagca gaaaggcaga aagttcctga taatctcaat 393
attatctttt caaaagtatt ttcctggaat gttgtttgct ttggcattac aaagttctgt 453
actcttaaaa atattttgac ttgctgggca tggaggtcac acctttaatc cagaggcagg 513
catggatcca caggagttca aggccgcctg gctacaaagc gagttcaagg gcagccaggg 573
ctacacagag agaccttgtc tcntnaccnn tnannaaaaa acnaaaaagc cggccgc 630

<210> 23
<211> 445
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (113)...(232)

<400> 23
tctagcgaac cccttcggta tagtctttag gtagtggctt agtccctgga agctctggtt 60
gcttggcatt tcaacgtgct tcttaaataa ctgttttatt agtcagtaca ag atg ctt 118
Met Leu
1

tgt ata tca gat ctg aaa tat ctt aaa att atc act tgc att gta aat 166
Cys Ile Ser Asp Leu Lys Tyr Leu Lys Ile Ile Thr Cys Ile Val Asn
5 10 15

tac tat tcc ttt cgc aga aat aat gaa tgc ttc aag aaa aaa aaa agc 214
Tyr Tyr Ser Phe Arg Arg Asn Asn Glu Cys Phe Lys Lys Lys Lys Ser
20 25 30

tgt ttg tat tgg gtt taa aacgtttcca aacaccaatt attctttact 262
Cys Leu Tyr Trp Val *
35

taagtcatcc gatctagtta ttaaattatt attactgcct tcacactatc aaagatggta 322
aatatctgat agaatcatat tcaaaatact tctgtttcac atttcttgag aaagtactga 382
ctgtctgagt tctttctcaa gaaatgtgaa acagaagtat tttgaatcga aggggttcgc 442
tag 445

<210> 24
<211> 273
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(273)
<223> n = A,T,C or G

<400> 24
tctagcgaac cccttcggaa gaactgtata tttgtgcctt gttctgcaag ttaaaaagct 60
ggtccagaca gtgtcataga attaactttt catttctgta ttaatttag gactgcaaaa 120
atcccaaagc tgtatactta gattggattc aataaaaagt ttaagtttac tnaanaaaaa 180
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaanaaaaa aaaaaaaagg 240
aaaaaaaaaa ncggncnnaa aaaaggnggc cgc 273

<210> 25
<211> 170

<212> PRT
<213> Rattus norvegicus

<400> 25
Met Ala Ser Ala Glu Ser Gly Glu Asp Pro Ser His Val Val Gly Glu
 1   5   10   15
Thr Pro Pro Leu Thr Leu Pro Ala Asn Leu Gln Thr Leu His Pro Asn
            20   25   30
Arg Pro Thr Leu Ser Pro Glu Arg Lys Leu Glu Trp Asn Asn Asp Ile
        35   40   45
Pro Glu Val Asn Arg Leu Asn Ser Glu His Trp Arg Lys Thr Glu Glu
    50   55   60
Gln Pro Gly Arg Gly Glu Val Leu Leu Pro Glu Gly Asp Val Ser Gly
65   70   75   80
Asn Gly Met Thr Glu Leu Leu Pro Ile Gly Arg His Gln Gln Lys Arg
                85   90   95
Pro His Asp Ala Gly Pro Glu Asp His Ala Phe Glu Asp Gln Leu His
            100   105   110
Pro Leu Val His Ser Asp Arg Thr Pro Val His Arg Val Phe Asp Val
        115   120   125
Ser His Leu Glu Gln Pro Val His Ser Ser His Val Glu Gly Met Leu
    130   135   140
Ala Lys Met Glu Gly Met Ala Gln Arg Ser Gly His Gln Val Ser Lys
145   150   155   160
Ala Ala Pro Pro Leu Gln Ser Leu Leu Ala
                165   170

<210> 26
<211> 2077
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (200)...(1825)

<400> 26
tctagcgaac cccttcgggg gaacccaagc ggcttcgccc aggcattcgc gcgggcgccc 60
gcggtctggg tcccacctcc tctgctttcg cacccttgaa gttttggagc accaggaaaa 120
gagggcaagg aaggagaggg gaagcgaaag catatcctaa aacatttact taaaggagga 180
aagaaaaggg gtcgcagaa atg gct ggg gca att ata gaa aac atg agc acc   232
                    Met Ala Gly Ala Ile Ile Glu Asn Met Ser Thr
                     1   5   10

aag aag ctc tgc att gtt gga ggg att ctt ctg gtt ttc caa atc gtt   280
Lys Lys Leu Cys Ile Val Gly Gly Ile Leu Leu Val Phe Gln Ile Val
             15   20   25

gcc ttt ctg gtg gga ggc ttg atc gct cca gca ccc aca acg gca gtg   328
Ala Phe Leu Val Gly Gly Leu Ile Ala Pro Ala Pro Thr Thr Ala Val
         30   35   40

tcc tac gtg gca gca aaa tgt gtg gat gtc cgg aag aac cac cat aaa   376
Ser Tyr Val Ala Ala Lys Cys Val Asp Val Arg Lys Asn His His Lys
     45   50   55

aca aga tgg ctg atg ccc tgg gga cca aac aag tgt aac aag atc aat   424

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Thr Arg Trp Leu Met Pro Trp Gly Pro Asn Lys Cys Asn Lys Ile Asn
 60                  65                  70                  75

gac ttc gaa gaa gca att cca agg gaa att gaa gcg aat gac att gtg      472
Asp Phe Glu Glu Ala Ile Pro Arg Glu Ile Glu Ala Asn Asp Ile Val
                 80                  85                  90

ttt tct gta cac att ccc ctc cct tct atg gag atg agc cca tgg ttc      520
Phe Ser Val His Ile Pro Leu Pro Ser Met Glu Met Ser Pro Trp Phe
             95                 100                 105

cag ttt atg ctg ttt atc ctg cag ata gac att gct ttc aag cta aac      568
Gln Phe Met Leu Phe Ile Leu Gln Ile Asp Ile Ala Phe Lys Leu Asn
        110                 115                 120

aac caa atc aga gaa aat gca gaa gtt tcc atg gat gtt tcc ctg ggt      616
Asn Gln Ile Arg Glu Asn Ala Glu Val Ser Met Asp Val Ser Leu Gly
    125                 130                 135

tac cgt gat gat atg ttt tct gag tgg act gaa atg gcg cac gaa aga      664
Tyr Arg Asp Asp Met Phe Ser Glu Trp Thr Glu Met Ala His Glu Arg
140                 145                 150                 155

gta cca cgt aaa ctc aga tgc act ttc aca tcc ccc aag acc cca gag      712
Val Pro Arg Lys Leu Arg Cys Thr Phe Thr Ser Pro Lys Thr Pro Glu
            160                 165                 170

cat gaa ggt cgt cat tat gaa tgt gat gtc ctt cct ttc atg gaa att      760
His Glu Gly Arg His Tyr Glu Cys Asp Val Leu Pro Phe Met Glu Ile
        175                 180                 185

ggg tca gtg gct cat aag tat tac ctt cta aat atc cgg cta cct gta      808
Gly Ser Val Ala His Lys Tyr Tyr Leu Leu Asn Ile Arg Leu Pro Val
    190                 195                 200

aat gag aag aag aaa atc aat gtt gga att ggg gaa ata aag gac att      856
Asn Glu Lys Lys Lys Ile Asn Val Gly Ile Gly Glu Ile Lys Asp Ile
205                 210                 215

cgg ttg gtg gga atc cac caa aat gga ggt ttc act aag gta tgg ttt      904
Arg Leu Val Gly Ile His Gln Asn Gly Gly Phe Thr Lys Val Trp Phe
220                 225                 230                 235

gct atg aag acc ttc ctc aca ccc agc atc ttc atc att atg gtg tgg      952
Ala Met Lys Thr Phe Leu Thr Pro Ser Ile Phe Ile Ile Met Val Trp
                240                 245                 250

tat tgg aga agg atc acc atg atg tcc cga cct cca gtg ctt ctg gaa     1000
Tyr Trp Arg Arg Ile Thr Met Met Ser Arg Pro Pro Val Leu Leu Glu
            255                 260                 265

aaa gtc atc ttt gcc ctt ggg att tcc atg acc ttt atc aat atc cct     1048
Lys Val Ile Phe Ala Leu Gly Ile Ser Met Thr Phe Ile Asn Ile Pro
        270                 275                 280

gtg gaa tgg ttt tcc att gga ttt gat tgg acc tgg atg ctg tta ttt     1096
Val Glu Trp Phe Ser Ile Gly Phe Asp Trp Thr Trp Met Leu Leu Phe
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    285                 290                 295

ggt gac ata cga cag ggc atc ttc tat gca atg ctt ctt tcc ttc tgg     1144
Gly Asp Ile Arg Gln Gly Ile Phe Tyr Ala Met Leu Leu Ser Phe Trp
300                 305                 310                 315

atc atc ttc tgt ggc gag cac atg atg gat caa cat gag cgg aat cac     1192
Ile Ile Phe Cys Gly Glu His Met Met Asp Gln His Glu Arg Asn His
                320                 325                 330

att gca ggg tat tgg aag caa gtt gga cca att gct gtt ggc tct ttc     1240
Ile Ala Gly Tyr Trp Lys Gln Val Gly Pro Ile Ala Val Gly Ser Phe
            335                 340                 345

tgc ctc ttc ata ttt gac atg tgt gag aga gga gtg caa ctc aca aat     1288
Cys Leu Phe Ile Phe Asp Met Cys Glu Arg Gly Val Gln Leu Thr Asn
        350                 355                 360

cct ttc tac agt atc tgg act aca gat gtt gga aca gaa ctg gct atg     1336
Pro Phe Tyr Ser Ile Trp Thr Thr Asp Val Gly Thr Glu Leu Ala Met
    365                 370                 375

gct ttc atc att gtg gca ggt atc tgc ctc tgc ctc tac ttc ctg ttt     1384
Ala Phe Ile Ile Val Ala Gly Ile Cys Leu Cys Leu Tyr Phe Leu Phe
380                 385                 390                 395

ctg tgt ttc atg gta ttt caa gta ttc aga aac atc agt ggg aaa cag     1432
Leu Cys Phe Met Val Phe Gln Val Phe Arg Asn Ile Ser Gly Lys Gln
                400                 405                 410

tct agc ctc cca gcc atg agc aaa gtc cgg agg ctg cac tat gag ggt     1480
Ser Ser Leu Pro Ala Met Ser Lys Val Arg Arg Leu His Tyr Glu Gly
            415                 420                 425

ctg att ttc agg ttc aag ttc ctc atg ctg atc acc ttg gct tgt gct     1528
Leu Ile Phe Arg Phe Lys Phe Leu Met Leu Ile Thr Leu Ala Cys Ala
        430                 435                 440

gcc atg act gtt atc ttc ttc att gtt agt cag gtg aca gaa ggc cat     1576
Ala Met Thr Val Ile Phe Phe Ile Val Ser Gln Val Thr Glu Gly His
    445                 450                 455

tgg aaa tgg ggt ggg gtc aca gtt caa gtg agc agt gct ttc ttc act     1624
Trp Lys Trp Gly Gly Val Thr Val Gln Val Ser Ser Ala Phe Phe Thr
460                 465                 470                 475

gga atc tat ggg atg tgg aac ctg tat gtc ttt gct ttg atg ttc ttg     1672
Gly Ile Tyr Gly Met Trp Asn Leu Tyr Val Phe Ala Leu Met Phe Leu
                480                 485                 490

tat gca cca tcc cat aag aac tat ggg gaa gac cag tct aat ggt gac     1720
Tyr Ala Pro Ser His Lys Asn Tyr Gly Glu Asp Gln Ser Asn Gly Asp
            495                 500                 505

ctg ggt gtc cac agc ggg gaa gaa ctg cag ctc act acc aca atc acc     1768
Leu Gly Val His Ser Gly Glu Glu Leu Gln Leu Thr Thr Thr Ile Thr
        510                 515                 520
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cat gta gat gga ccg act gag atc tac aag ttg acc cgt aaa gaa gca     1816
His Val Asp Gly Pro Thr Glu Ile Tyr Lys Leu Thr Arg Lys Glu Ala
    525                 530                 535

cag gag tag taggctatgg cattcatcct cagggcaggt gatgaagcca            1865
Gln Glu  *
540

agttgctggt gcatgctgac cctcatgaat atgctttcgt atctttatgt cccaggatca  1925
tttttatcct gtcacgttta caagaacatt tctgacatgc atacgtttac ttttaccatg  1985
tattagttac ttttatattt ctgtgataaa acaccatgag aaatacaatt tacagaagca  2045
aaaaaaaaaa aaaaaaaaaa aaaagcggcc gc                                 2077

<210> 27
<211> 259
<212> PRT
<213> Rattus norvegicus

<220>
<221> SIGNAL
<222> (1)...(26)

<400> 27
Met Glu Leu Ser Arg Arg Ile Cys Leu Val Arg Leu Trp Leu Leu Leu
    -25                 -20                 -15
Leu Ser Phe Leu Leu Gly Phe Ser Ala Gly Ser Ala Leu Asn Trp Arg
-10                 -5                   1                   5
Glu Gln Glu Gly Lys Glu Val Trp Asp Tyr Val Thr Val Arg Glu Asp
            10                  15                  20
Ala Arg Met Phe Trp Trp Leu Tyr Tyr Ala Thr Asn Pro Cys Lys Asn
        25                  30                  35
Phe Ser Glu Leu Pro Leu Val Met Trp Leu Gln Gly Gly Pro Gly Gly
    40                  45                  50
Ser Ser Thr Gly Phe Gly Asn Phe Glu Glu Ile Gly Pro Leu Asp Thr
55                  60                  65                  70
Arg Leu Lys Pro Arg Asn Thr Thr Trp Leu Gln Trp Ala Ser Leu Leu
                75                  80                  85
Phe Val Asp Asn Pro Val Gly Thr Gly Phe Ser Tyr Val Asn Thr Thr
            90                  95                  100
Asp Ala Tyr Ala Lys Asp Leu Asp Thr Val Ala Ser Asp Met Met Val
        105                 110                 115
Leu Leu Lys Ser Phe Phe Asp Cys His Lys Glu Phe Gln Thr Val Pro
    120                 125                 130
Phe Tyr Ile Phe Ser Glu Ser Tyr Gly Gly Lys Met Ala Ala Gly Ile
135                 140                 145                 150
Ser Leu Glu Leu His Lys Ala Ile Gln Gln Gly Thr Ile Lys Cys Asn
                155                 160                 165
Phe Ser Gly Val Ala Leu Gly Asp Ser Trp Ile Ser Pro Val Asp Ser
            170                 175                 180
Val Leu Ser Trp Gly Pro Tyr Leu Tyr Ser Val Ser Leu Leu Asp Asn
        185                 190                 195
Lys Gly Leu Ala Glu Val Ser Asp Ile Ala Glu Gln Val Leu Asn Glu
    200                 205                 210
Lys Gln Gly Leu Leu Gln Gly Ser His Ser Ala Val Gly Glu Ser Arg
215                 220                 225                 230
Asn Asp His
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<210> 28
<211> 755
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(755)
<223> n = A,T,C or G

<221> CDS
<222> (30)...(122)

<400> 28
tctaacgaac cccttcggag cgatggaat gag aaa ggc cca gaa tgt gtt aag 53
Glu Lys Gly Pro Glu Cys Val Lys
1 5

tct gtg cag ggg aag tgt cct gag ggg agg gtc ttt ggg agg gtc gaa 101
Ser Val Gln Gly Lys Cys Pro Glu Gly Arg Val Phe Gly Arg Val Glu
10 15 20

ggc cag gat ggc aaa gtg aag gtagctgagg ttgcagtctt gggtgcccac 152
Gly Gln Asp Gly Lys Val Lys
25 30

tgctgtgcat ctgtctggtt atctacccct actttgggct gacaactgca gggttgggtg 212
taggctgtct cactgcatgc cgggaagctg gagaagctcc acgggaacat tgagggccat 272
ggctttgaga cactgcagag catccttggt ctctgtaacc acgtcaccta accctgacaa 332
ttccagaccc ttcttccatt gtccttgtga accatttggg cttatctttc cctcttagtc 392
gcaagggtca aaccaagggt cagtcaagta gatgactgtc accttgggcc tccccagact 452
ctgctgccgg ggttgggaga ccaaagtaga aactgccact acaaggcccc aggatgaggt 512
ctctgttctg tggacctgct ccccagatac aggcctcaga cccataggac gtggccggtg 572
ctcagggaca cccaatcccc ggcctcactc catcgagtac tgacttcttt ctctagtgcc 632
ttgggggtct ccatccttca gttatggtat gaagaatcta tgcaaactgt ataagcttct 692
gctcaccaat aaacgcttta tttaaagctt annnnnnnnn nannnnnnnn nnnaagcggn 752
cgc 755

<210> 29
<211> 1310
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(1310)
<223> n = A,T,C or G

<221> CDS
<222> (89)...(391)

<400> 29
tctagcgaac cccttcgcag aaacccaaag ttacagacca gaccctaccc aacatccagt 60
cagcaatcca gctggagaaa cgcttgag atg aca agg gac ttt cag aag caa 112
Met Thr Arg Asp Phe Gln Lys Gln

```
                                    1               5

gcc ttg ata aga cag gaa aag cag aat tct aat aaa gat atg agg aaa      160
Ala Leu Ile Arg Gln Glu Lys Gln Asn Ser Asn Lys Asp Met Arg Lys
     10                  15                  20

aat gac atg ggc ctt caa cct ctg cct gta ggg aag gac gca cac agt      208
Asn Asp Met Gly Leu Gln Pro Leu Pro Val Gly Lys Asp Ala His Ser
 25                  30                  35                  40

gca cca gga gtg aca gtc tct ggg aaa aac cac aaa aga act cag gca      256
Ala Pro Gly Val Thr Val Ser Gly Lys Asn His Lys Arg Thr Gln Ala
                 45                  50                  55

cct gac aag aaa cag aga att gat gtt tgt cta gaa agc cag gac ttt      304
Pro Asp Lys Lys Gln Arg Ile Asp Val Cys Leu Glu Ser Gln Asp Phe
             60                  65                  70

cta atg aag aca aat act tcc aag gag tta aaa atg gca atg gag agg      352
Leu Met Lys Thr Asn Thr Ser Lys Glu Leu Lys Met Ala Met Glu Arg
         75                  80                  85

tcc ttt aat cca gtc aac ctt tcc ctg act gtg gtg taa aagaaaatga      401
Ser Phe Asn Pro Val Asn Leu Ser Leu Thr Val Val  *
     90                  95                  100

ggacgccctt ctctccatct tcccctcctt cttctccttc caattgcgtc atctgaaatt    461
gaatttcctc tcctcctcca ccacctataa tgctgtgcct gaaaaaaatg agtttcctcc    521
ctcatcaccc acagagaagt caagggctga acttgagagc ctcccaaccc tgcctcttcc    581
tccaccacca ggagatgaga aatctgatca ggaatgtcta ccaacatccc tacctcctcc    641
ccctcccaca gctccatccc aaccagcaca tcttctttcc tcctctgttc tagaacatca    701
cagtgaagca tttttacaac agtattcccg aaaagaaacc ttggactctc atcggcttca    761
ctcacaggct aaaatcctaa caggaaaatc accacccccа acactcccca aacccaaact    821
tcccgagaga atcaaagcta agatgagcca ggattcacca agcggtgaat tggaaagatc    881
tctgtcagat gtggaaatta aaactaccct ctcaaaggat cagaaaagtt cgctggtggc    941
agaaagccgt gagcacacag aggccaagca agaagtattc cgaaaaagcc ttggaagaaa   1001
acagctgtcc attagctctg caaactccct ctctcagaca gttccagaaa tcccagcacc   1061
caaggaaaaa cagacagcac cccttgttaa atctcactca ttcccatcag gttcagaaca   1121
acaaagtcct aagccttaca tgagaaaatt taagacaccc ttaatgattg cggaagaaaa   1181
atacagacaa caaagggaag agcttgagaa acagagacgg gagagttctt gccatagcat   1241
catcaaaaca gaaacccagc accgcagctt atcaaanntt aaaaaaaaaa aaaannnagc   1301
ggncgcccg                                                          1310

<210> 31
<211> 774
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(774)
<223> n = A,T,C or G

<221> CDS
<222> (297)...(494)

<400> 31
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tctagcgaac cccttcgctt ttttttttt ttttttttt ttttcccccc tttcctattt      60
attaatgggg ggaagtatgt ttatgtggga tttatccact tcttttagat tctcctacct     120
gttgatctgt aattattcct agtagtctct tagagttctt agaagcatgc tgttaccgct     180
aatatttcct tttggtttgg atcttactta aacatattgt ttccttactc tcttttttcat    240
cccagcttgt ctaactgaaa ggccagaccc aacttgatct atccctttaa aacttc atg     299
                                                              Met
                                                               1

tct tgg cct gtt gat ttc tct gct cca ggt gtc acc gaa ggg gtt cgc       347
Ser Trp Pro Val Asp Phe Ser Ala Pro Gly Val Thr Glu Gly Val Arg
             5                  10                  15

cta gcg aac ccc ttc gta aca gcc aag gtt ttt gag aca gag gtt tca       395
Leu Ala Asn Pro Phe Val Thr Ala Lys Val Phe Glu Thr Glu Val Ser
         20                  25                  30

aca gca ttc ctg gag gag aca caa agg aca gat gag tca cat gaa gga       443
Thr Ala Phe Leu Glu Glu Thr Gln Arg Thr Asp Glu Ser His Glu Gly
     35                  40                  45

tgg gag gag gga agg tgg ctg ttg ata ggt att ttg aga cac tct att       491
Trp Glu Glu Gly Arg Trp Leu Leu Ile Gly Ile Leu Arg His Ser Ile
 50                  55                  60                  65

tga gtcctacaca acactccccc ctccccccaa accattttta tgtctattga            544
 *


cctttcctct agtcatacag ggaaattcac agttacctac aaagaaccac taattgtaac     604
aagtcaagag gaaacttatt tttgataatg actcattgaa gatgttttga aaatttaaaa     664
ataagctctg ttagcagaag tctgtnngaa aagcangaag gaantgtttg tttattanat     724
aaataaaagg cggcgaggac aacaaaaaaa aaaaaaaaaa aagcggccgc               774

<210> 33
<211> 1259
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (92)...(220)

<400> 33
tctagcgaac cccttcgcga aggggttcgc cgaaggggtt cgcttcagga gttaatgtag     60
acttgactta agcatcctga tttaaccaag a atg gtg gca cac aac ttt aac        112
                                    Met Val Ala His Asn Phe Asn
                                     1               5

ccc cat gct ggg gaa gca gag gca cac tta atc tgt gtg agt ccc agg       160
Pro His Ala Gly Glu Ala Glu Ala His Leu Ile Cys Val Ser Pro Arg
         10                  15                  20

cca tcc agg gat acc gta gta gtg aga ccc tgt ctc aca aaa caa aga       208
Pro Ser Arg Asp Thr Val Val Val Arg Pro Cys Leu Thr Lys Gln Arg
     25                  30                  35

atg gga att tag ggctggtggg gctcagcatg caactgtgcc tgttacctag          260
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Met Gly Ile  *
 40

tctggcctga gttcaattcc caagactcaa tgtatgagga gagaaacgat ttctgaactc    320
attcattgat ctccaaatgt gtggtatagg tgcccttccc ttaaataaaa caaacaaaca    380
aaaaacaaca aaaacaacaa acccccaata aatgtatatt taattttaaa agactgtact    440
tgggcatggt acttcacatc tacagttacg acattctaga ggctcaggcc tgggaattgc    500
tatgaatttg aggccagtct gggttagagt gacttctcat ctaggcagga ctacgtaata    560
agtctttgcc caaaaataaa cagcaaccca aataagagca acaagaattc tccctccaaa    620
tagtaacctg ggcctggaga gacagcttag caactgagtg cttgccgagc catcgaggac    680
tggagtctgg attccagcac ccgtgtgaca gacaagctgg gcgttcactc atgctgatga    740
accccaaggc tgaggagaca ctgactcttc tctggccctg ttcatgctgt ccacaggtgc    800
ccaagtagca gttaagtaga ctgtcagaca acatggctgg ctttttaagc aagaacagta    860
actgaagaaa tacacttttg aagtactgtt aattttgctt aaaacttggt agggagctgg    920
aggatggctc agtggttaag agcactgact gctcttccag aggtcctgag ttcaattccc    980
agcaaccaca tggtggctca caaccatctg taatgagctc tgatgccctc tttttggtgt   1040
gtctgaagac agcgacagtg tactcatata aaataaaata aatctttttt ttttttaaaa   1100
gaaatttgtc agagatatgg caggaagggt atatttttac ctatttacct ggtgggctaa   1160
tcctggtatt tttttcaaaa ttaagatact atataggagc cgcgaagggg tcgctaggcc   1220
agtgtgatgg atatctgcag aattcggtta gccgaattc                          1259

<210> 34
<211> 541
<212> PRT
<213> Rattus norvegicus

<400> 34
Met Ala Gly Ala Ile Ile Glu Asn Met Ser Thr Lys Lys Leu Cys Ile
 1               5                  10                  15
Val Gly Gly Ile Leu Leu Val Phe Gln Ile Val Ala Phe Leu Val Gly
            20                  25                  30
Gly Leu Ile Ala Pro Ala Pro Thr Thr Ala Val Ser Tyr Val Ala Ala
        35                  40                  45
Lys Cys Val Asp Val Arg Lys Asn His His Lys Thr Arg Trp Leu Met
    50                  55                  60
Pro Trp Gly Pro Asn Lys Cys Asn Lys Ile Asn Asp Phe Glu Glu Ala
65                  70                  75                  80
Ile Pro Arg Glu Ile Glu Ala Asn Asp Ile Val Phe Ser Val His Ile
                85                  90                  95
Pro Leu Pro Ser Met Glu Met Ser Pro Trp Phe Gln Phe Met Leu Phe
            100                 105                 110
Ile Leu Gln Ile Asp Ile Ala Phe Lys Leu Asn Asn Gln Ile Arg Glu
        115                 120                 125
Asn Ala Glu Val Ser Met Asp Val Ser Leu Gly Tyr Arg Asp Asp Met
    130                 135                 140
Phe Ser Glu Trp Thr Glu Met Ala His Glu Arg Val Pro Arg Lys Leu
145                 150                 155                 160
Arg Cys Thr Phe Thr Ser Pro Lys Thr Pro Glu His Glu Gly Arg His
                165                 170                 175
Tyr Glu Cys Asp Val Leu Pro Phe Met Glu Ile Gly Ser Val Ala His
            180                 185                 190
Lys Tyr Tyr Leu Leu Asn Ile Arg Leu Pro Val Asn Glu Lys Lys Lys
        195                 200                 205
Ile Asn Val Gly Ile Gly Glu Ile Lys Asp Ile Arg Leu Val Gly Ile
    210                 215                 220
His Gln Asn Gly Gly Phe Thr Lys Val Trp Phe Ala Met Lys Thr Phe
225                 230                 235                 240
```

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Leu Thr Pro Ser Ile Phe Ile Ile Met Val Trp Tyr Trp Arg Arg Ile
                245                 250                 255
Thr Met Met Ser Arg Pro Pro Val Leu Leu Glu Lys Val Ile Phe Ala
            260                 265                 270
Leu Gly Ile Ser Met Thr Phe Ile Asn Ile Pro Val Glu Trp Phe Ser
        275                 280                 285
Ile Gly Phe Asp Trp Thr Trp Met Leu Leu Phe Gly Asp Ile Arg Gln
    290                 295                 300
Gly Ile Phe Tyr Ala Met Leu Leu Ser Phe Trp Ile Ile Phe Cys Gly
305                 310                 315                 320
Glu His Met Met Asp Gln His Glu Arg Asn His Ile Ala Gly Tyr Trp
                325                 330                 335
Lys Gln Val Gly Pro Ile Ala Val Gly Ser Phe Cys Leu Phe Ile Phe
            340                 345                 350
Asp Met Cys Glu Arg Gly Val Gln Leu Thr Asn Pro Phe Tyr Ser Ile
        355                 360                 365
Trp Thr Thr Asp Val Gly Thr Glu Leu Ala Met Ala Phe Ile Ile Val
    370                 375                 380
Ala Gly Ile Cys Leu Cys Leu Tyr Phe Leu Phe Leu Cys Phe Met Val
385                 390                 395                 400
Phe Gln Val Phe Arg Asn Ile Ser Gly Lys Gln Ser Ser Leu Pro Ala
                405                 410                 415
Met Ser Lys Val Arg Arg Leu His Tyr Glu Gly Leu Ile Phe Arg Phe
            420                 425                 430
Lys Phe Leu Met Leu Ile Thr Leu Ala Cys Ala Ala Met Thr Val Ile
        435                 440                 445
Phe Phe Ile Val Ser Gln Val Thr Glu Gly His Trp Lys Trp Gly Gly
    450                 455                 460
Val Thr Val Gln Val Ser Ser Ala Phe Phe Thr Gly Ile Tyr Gly Met
465                 470                 475                 480
Trp Asn Leu Tyr Val Phe Ala Leu Met Phe Leu Tyr Ala Pro Ser His
                485                 490                 495
Lys Asn Tyr Gly Glu Asp Gln Ser Asn Gly Asp Leu Gly Val His Ser
            500                 505                 510
Gly Glu Glu Leu Gln Leu Thr Thr Thr Ile Thr His Val Asp Gly Pro
        515                 520                 525
Thr Glu Ile Tyr Lys Leu Thr Arg Lys Glu Ala Gln Glu
    530                 535                 540
```

<210> 35
<211> 777
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (247)...(387)

<400> 35

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tctagcgaac cccttcgtct cctcttaaac atcttaagac aagctgttat catctacact     60
gctcttagta ctgttctttt ctaagattct tctaatatga cacattaaga ctttcttaaa    120
atgtacaact gctacgctga tctaaacatt caaagtgcac acatttcgct atgaagccac    180
gtgaccagag tcctggggac taatttctgt cttagtcaga ttcctattgc tatatgaaga    240
aatacc atg ata gtg tca act ttt ata aag aaa aag tat tcc ttt ggg        288
       Met Ile Val Ser Thr Phe Ile Lys Lys Lys Tyr Ser Phe Gly
        1               5                   10
```

```
aat agt tta aag gat cag agg gtt agt gca tta tca tca cag cag gaa      336
Asn Ser Leu Lys Asp Gln Arg Val Ser Ala Leu Ser Ser Gln Gln Glu
 15                  20                  25                  30

gcg tgg cag tgg gag ccc aga ttt cta tat cca gat ttt cat gaa gca      384
Ala Trp Gln Trp Glu Pro Arg Phe Leu Tyr Pro Asp Phe His Glu Ala
                 35                  40                  45

tga cgagagctcc tgggcctggc gcgagcttct gaaacctgaa agtgacatat           437
 *


ttcttccaat aaggccacaa ctactgctat aaggccacat ctcctaactg tgtcactatc    497
tatgagcctg tacagtctat ttcttttaca ccactgcatc atctaagagc tgatacccgt    557
taagttagtc atgaaaatat tcaacttcta gggttctgtt ttcttctcta taaaatattg    617
aaaatgataa ttaatgtata ctttacagaa ctgtatttga agtacaactt gatggacata    677
aatcaccaca gttgggtcaa aattgtatat atatatatat atatatatat atatatatat    737
atatatcaaa aaaaaaaaaa aaaaaaaaaa aagcggccgc                         777

<210> 36
<211> 31
<212> PRT
<213> Rattus norvegicus

<400> 36
Glu Lys Gly Pro Glu Cys Val Lys Ser Val Gln Gly Lys Cys Pro Glu
 1               5                  10                  15
Gly Arg Val Phe Gly Arg Val Glu Gly Gln Asp Gly Lys Val Lys
            20                  25                  30


<210> 37
<211> 1378
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(1378)
<223> n = A,T,C or G

<400> 37
tctagcgaac cccttcgtac atttcaccct agaaataaat agaccttcta gctctgacag      60
aaagtagtgc ttgcctagga ggagctgggc tggccagttc ctccttcttg cacacttagc     120
ctgtttgctg aaggcttgtt tcaatggaaa actgaaatgg acccactaat gtctcgattc     180
ttctctcctt cactaagtct gtgaagtcat cagcgttttg tcttttgtgt gtgaataccg     240
aggagaattt cctcacccag tgccttcagg agccatgatg gctgcctcag aataagcaca     300
gatacacttg agcaactggt gcagaaaacc cgacttctaa attattaagg aacaggataa     360
ttgcttgtta caataattag aataatgtaa ttaggataat tgcttttaaa aaatcttccc     420
acctttcccc ccccaaatat taataattcc aactaaatcc tctggggccc ttccagtttc     480
cacaacggaa agagcctaac gtattctaaa gactgggcat attttttttt tccagattag     540
tgagtgttca tgagctatta agaggccaag tgtttttttca agatggtgtc atttcattct     600
aacatatcta acatgcaaag gacttaaaaa aataatttgc aaaataatct gtttcaagtc     660
tatgaggaag ctgaagagcc tactccggag gaaactccag aagagcctcc tagcatagag     720
gaagaagaga tagtggagga agaggaggag gaggaggtgc ccccgcccag aggtacagcc     780
gctttgatga gttcagcatt ccaaagcctt ggtgctgctg gaccctactc attagccata     840
tactttcctg gaagcacagc cacgaggcct ggagggtgca cactcgtaat gactggagct     900
```

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ttgtgggcct ttcctttccc ctaacgtttc ctccttcccc gcaatctgac cataaatgag     960
gagatttttt ttttctctta ctacactttt tgcaatccta gtttgcaatc ctcagtgtgg    1020
ctggctttca gttcaaatgc tggagaacca tgtatctgtg tggtgagagc attcattttc    1080
aagactaatt cttaaaccgc ttatccccgg agacagaaac cgtggcagag ttgctatcct    1140
ctgagctggg gtggtcatga tgatcagtta ggttactaac atcttcctaa atgaatcggt    1200
gttttgtgtt gctctgtttt catttggatg acagggtgtt gttctgttta atgcgtgtgg    1260
gtttttccaa catgtccgta aaaatatctt ttaagcacca gangtagtga agaaagctgt    1320
gcaaacagca cccgctcctg tccccaagaa awccgaggcg ccccccccaaa ggtatatc     1378

<210> 38
<211> 1554
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(1554)
<223> n = A,T,C or G

<221> CDS
<222> (141)...(1082)

<400> 38
tctagcgaac cccttcgcga acccccttcgc tgcatcctca taaagctacc tcaagacaga     60
gcgtaactgc ctcattctag gagtggactc ggggaagaca gcagacacac catcagggag    120
cccctgggta tctccagaac atg gca agc cgt gga tac ctg cat cac ctg ctg    173
                        Met Ala Ser Arg Gly Tyr Leu His His Leu Leu
                         1               5                  10

act gca gag gga gcc tgg gag gag ttt gta tca aag gcc aag ttg ccc      221
Thr Ala Glu Gly Ala Trp Glu Glu Phe Val Ser Lys Ala Lys Leu Pro
             15                  20                  25

agg gat agg gca gtg gcc ctc cac aaa gca ctg agg gat ctg aca gca      269
Arg Asp Arg Ala Val Ala Leu His Lys Ala Leu Arg Asp Leu Thr Ala
         30                  35                  40

ctc ttg gcc ata gca gaa aga ggc aga tct cgg aaa ggc tgg aaa ggc      317
Leu Leu Ala Ile Ala Glu Arg Gly Arg Ser Arg Lys Gly Trp Lys Gly
     45                  50                  55

aag gag aag ttt gtg aaa gca ttt cct tgc ttg aaa gca gac ttg gag      365
Lys Glu Lys Phe Val Lys Ala Phe Pro Cys Leu Lys Ala Asp Leu Glu
 60                  65                  70                  75

gag cac atc agc cag ctc tat gcc cta gcc gac cat gct gag gaa ctg      413
Glu His Ile Ser Gln Leu Tyr Ala Leu Ala Asp His Ala Glu Glu Leu
                 80                  85                  90

cac agg ggc tgc acc gtc tcc aac atg gtg gct gac tcc ttc agt gtt      461
His Arg Gly Cys Thr Val Ser Asn Met Val Ala Asp Ser Phe Ser Val
             95                  100                 105

gcc tcc gac atc ctg aac atc ttt ggt ctc ttt ctg gca cct gag tca      509
Ala Ser Asp Ile Leu Asn Ile Phe Gly Leu Phe Leu Ala Pro Glu Ser
        110                 115                 120
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gca gag gga agt ctg gtg ctc tcg gca gca ggc ttg ggg ctg ggg gta      557
Ala Glu Gly Ser Leu Val Leu Ser Ala Ala Gly Leu Gly Leu Gly Val
    125                 130                 135

gca gct act gtg act aat gtt gct act tca atc atg aag gaa aca agc      605
Ala Ala Thr Val Thr Asn Val Ala Thr Ser Ile Met Lys Glu Thr Ser
140                 145                 150                 155

agg gtt ttg gat gga gtc gaa gct ggt cac cat ggt tca acc gcc atg      653
Arg Val Leu Asp Gly Val Glu Ala Gly His His Gly Ser Thr Ala Met
                160                 165                 170

gat ata ctg gag gaa gct ggc aca agt gtg gct agg att gcc agc gag      701
Asp Ile Leu Glu Glu Ala Gly Thr Ser Val Ala Arg Ile Ala Ser Glu
            175                 180                 185

atc cct cag gct acc aga gat atc acc aga gac ctg gaa gcc ctt gag      749
Ile Pro Gln Ala Thr Arg Asp Ile Thr Arg Asp Leu Glu Ala Leu Glu
        190                 195                 200

cag cac atg aat gcc ctc agt ctg gtc aga gcc aac cct cgc cta gaa      797
Gln His Met Asn Ala Leu Ser Leu Val Arg Ala Asn Pro Arg Leu Glu
    205                 210                 215

gaa gat gcc agg gcc ctc atc aat gca ggt agc atc cct gcc caa cgg      845
Glu Asp Ala Arg Ala Leu Ile Asn Ala Gly Ser Ile Pro Ala Gln Arg
220                 225                 230                 235

gct aaa cag gtg cgg gcc agt ctg aaa gga acc cct ctg gca atg agc      893
Ala Lys Gln Val Arg Ala Ser Leu Lys Gly Thr Pro Leu Ala Met Ser
                240                 245                 250

aag gaa gac cgg atc cgc agt gcc acc acc act ggg gtc acc ctc ttg      941
Lys Glu Asp Arg Ile Arg Ser Ala Thr Thr Thr Gly Val Thr Leu Leu
            255                 260                 265

cgt gat gtg ggg agc ctt gtg aac gag tcg aag cag ttg tac gaa ggg      989
Arg Asp Val Gly Ser Leu Val Asn Glu Ser Lys Gln Leu Tyr Glu Gly
        270                 275                 280

tct gct tcc gaa tcg gca gca gca cta agg aag ctg gct cag gag ctg     1037
Ser Ala Ser Glu Ser Ala Ala Ala Leu Arg Lys Leu Ala Gln Glu Leu
    285                 290                 295

gag gag aag cta ggg gag ctc atg aaa ttc tac gag aca atc tga         1082
Glu Glu Lys Leu Gly Glu Leu Met Lys Phe Tyr Glu Thr Ile  *
300                 305                 310

tcaggtttca gccagtcacc ccatccccaa gacatgcaga catcanggga gaggatctgg   1142
acagaggtag ggaccatgga ggtgctgtta gaaggagagc aagactacag tcaggtccga   1202
gggacatagt gtggaggcct gtttgatgaa cacarcaggt taraggatgg agcagtggat   1262
caaagtgaga tccactggag cctgagacsa gggaccagag gatgtgctgc aagagggact   1322
gggaaaattg aaatctanac taaacatgga aaaaaggcag tttcgaaaga ctagaaaacc   1382
ctccccatct gagccattgg aaaccccaca aaacacaaac cagagagaaa agtgtgtgct   1442
ctctaaacaa gtcgtggccc ccagttcccc agcccactcc caccctcagg ggtggcatca   1502
aataaattgt ttccatttca aaaaaaaaan naaanaaaaa aaaagcggcc gc           1554
```

<210> 40
<211> 1142
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(1142)
<223> n = A,T,C or G

<400> 40
tctagcgaac cccttcggct ttttctgatt taaagtgaag aaatggccat atttgcttga 60
taatcttcag ttgtgtctct ggaactcaac aaagaacgca ttttatgaaa tatacagctg 120
tcttcggtaa agccaacttt cttacacata tttcgggaag taattaacta caatttggac 180
ttatagttac aaggttgcct tcgaaacact gctctaaatg tgtctcgtgt tggggtgcta 240
ctttgcttat gtgtaaattt cacagtaatg caatagagaa agggtgtttg tgggtgtggc 300
ttgtgggggg gattgttttg ttgttgttgt ttgagataaa gcttcattct gtagccagga 360
aagcctggaa tttactgtgt catcccaggt agcttcaaac tggtgcctat cctgcctcag 420
cctccaacgt gttgcaattg caggagtaac ctaccacatc ctgcagctac agtgatctag 480
aacctccccg tcgaagcccc accaccatag aaaccaattt gcattaagtt ttagaattcc 540
caacccaact aaagtttaat aaaaaaagaa aaacaaaaca agatttaaat cattctttcc 600
ctcattcttt ttnnagatnc agggctcncc tagttttnaa caaaacagtn ngcagngnng 660
ggnnccccng gnggggnttt tttncnttgn gccncntngc ancccacccn cccaggcngg 720
atngggnggg gtataaaagt nttancnggc anatgnnctn ggngcanacc caagtntatc 780
aggncctnan ttnccnccca ganaactaga nanctntngc atagtanang cccentgtgn 840
agatttnaaa nccncctgtn cacaganana gaancttana tagaaaantc aaaatatttn 900
ggngcccaan gttncccacc ctgtagagng ggnccccaaa ancngccncc aganagcnng 960
atatntgagt tntgacctnt attctttact acnacgcntt gagagaatat tntgntgggg 1020
ccctanccac atgttttgnc ccaagantgt aaanccactt naannctgng ggatatctcn 1080
ctgcanacag aagtgcccng cgggatttta aaaaaaaaaa taaaaaaaaa aaaggngccn 1140
cc 1142

<210> 41
<211> 502
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(502)
<223> n = A,T,C or G

<400> 41
tctagcgaac cccttcgtgg agactgtgga agttatgtat gaataggaga gtgtgtgttg 60
tgtaacacag acagaaggac attggatcat gttgaacccg cacccccaac tatgagtgat 120
ggtatggaaa gaatgcgaac atttaaactg cgccaatgcg gcggccatct tggtggagaa 180
gttcctagcc gagctttgat gtgatttttt tgatggtaca atgcagcgag catggccacg 240
ggagctttga atccagccga cagctccgag atttgccctt ccagtgctct tgcctaccgt 300
agagaggact gctgagatgg gattccttgt gacaagccta cttaccttta actgccagca 360
tttgtaaggt gcaatcttgt gtattggttt tttattttga cagttttgaa aacatgtttg 420
ntgntcttgg tgtttttcca gtaaaagtaa tcacaaagga aaaaaaaatt aaaaaaaaaa 480
aaaaaaaaaa aaaagcggcc gc 502

<210> 42
<211> 1426
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(1426)
<223> n = A,T,C or G

<400> 42
tctagcgaac cccttcgcct tcatatggtt ttacactgta tgcatctcac cgcggcccgg 60
aacctttctt ctcatcccaa tcctgtttga ggggacgggg ggcagggacg gacaacccaa 120
gacaagggat atttgtgctg tgggtattgc atcttatgga gggctgtagc taactgggac 180
tcctgggtga ccccaacagg cctttgatcc tctgtctctc cccgcttgat ctttcttacc 240
ttatgcttcc ccaagtgcag ctgagggact acacagtggc tcccgcccca ctccaaacac 300
aggaaatcaa tctcagggag aggagataag aagtgaggag aagccaagat tcaaccaata 360
gatggtaatt gctcctggga ccgccccccc aagcatcatt tccataggaa ggactgagtt 420
tggctcctga agcccagtgg agtacctttc tctgcctgaa ttctgttgtg atccctggcc 480
aagtcctctt tccagaaacc ccacctttaa aaccagctga gaaggacctt cttctctatg 540
tttaataggt aactttccat agcttagctt ccctgcagtc tcccgagtgc ccagttaaaa 600
ttctgccata ggtcaaaagt ggggttgaga ggtgaagtca gaggccatgc atggagctca 660
gaacgtttct aaacctcctg tgattcattg agtagcccct agactctaga aggctcagat 720
gccaaaaagg ktgactttat aatttcttag ggtcttctca tgggatcgkt ttcagagtgg 780
gcattcacta aatgatagca agtttattaa ttgtttccca gygcctgatc tctttatttn 840
cccagggctt ccaaccagag cccttggttg aaagtctccc acccaccccc caccctgaga 900
cttggtggnt ttctgagatt ccccagggat ggcaaaattg gcattcttac agggagccct 960
gacttctagc acgttaccta gatttttac cctgctctct ctgcctattt tactatggga 1020
tcactgntct ctttggactt aaggaaccac cttgaagtag agtgaggtga ccacgtgttg 1080
gtggcgaaga atataagcat tggtccttaa aagagaactt ctatgaagtc aggctgcaag 1140
ctttaacatg gcacaagttg caccttactg gctgctaagt ctggatgtca accaaaggtc 1200
aactctntaa ttaaagaaaa gcaagggaga aganaggtgg aagnggcttn cataaacttt 1260
attcaaaatg tctaccagga atggtggtga caccaataat cccacatgtt ggatgtngag 1320
gcaggaagaa tgatggtaag gggcatcctc actacataat gagttgaggc tngactaggt 1380
taactntgct tnaaaaaaaa aaaaaaaaaa aaaaaaaagg ggngcc 1426

<210> 43
<211> 985
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (79)...(255)

<400> 43
tctagcgaac cccttcgcaa gaactcagac tgctcctgcc tgacttccta ggtgtcatag 60
ctctcttctg ccgccagt atg aca tca tca agg aca acg agc cca ata aca 111
Met Thr Ser Ser Arg Thr Thr Ser Pro Ile Thr
1 5 10

aca agg aaa aaa cca aga gtg cat cag aga cca gca ccc cag agc acc 159
Thr Arg Lys Lys Pro Arg Val His Gln Arg Pro Ala Pro Gln Ser Thr
15 20 25

agg gtg ggg gtc tcc tcc gaa gca aga tat gaa acc ctt tca gtg ctt 207
Arg Val Gly Val Ser Ser Glu Ala Arg Tyr Glu Thr Leu Ser Val Leu
30 35 40

gct ctg agc agc tca gaa gta gaa tgc gag agg acc tca ctg ttc tga 255
Ala Leu Ser Ser Ser Glu Val Glu Cys Glu Arg Thr Ser Leu Phe *

```
     45                  50                  55

cgatgattgt ccaacacaca tccggccctc tccgtgtctc ctcccaccac catcttctcc    315
tatcaccggg cttactatct tctctcctgg ctttcctctt tctgatggcg gttcctgaag    375
cctccaacta acccctaact cggggagcgc ctcgacagtg tttgtggcta aggctacact    435
cagagacaga gttgcagaat gagggagacc cagcccgagg gacgccattg ctgggaggta    495
gactgggtgc gagggccctt ggcacaggac tcacatctgg gctgttcagc ttgacccgaa    555
ggctgtgtgt gaaaggggga aaaagacaag attgccaggc agggctgttg tttttgtggc    615
ttcgagggac aagaacctgg ctaaaaggca gcagccctgc tgttcttttt ctcctctgtc    675
ctgtttccta ccttacaaga agtccatgca accaaccggg gctctggcac ttttcttgtt    735
tatttccctc ctggcttcca aacaagccct ctgtggacat catcaaagca tggataaccc    795
cctctgcagg ggtgggcttc attctccgct ggtccctgta gccttcctgg acacagggtg    855
aaagttgtaa aagtggtagg agtgcagcta gccacaggtt ctccttttcc catctcagtc    915
tgaccaagga ggctgaacta ccaacccaaa ttcagcgaaa aaaaaaaaaa aaaaaaaaaa    975
aagcggccgc                                                          985

<210> 44
<211> 2010
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (239)...(1507)

<221> sig_peptide
<222> (239)...(343)

<400> 44
tctagcgaac cccttcgcgg ggacagacat ggagaaggag atggaggacc ccctggctgg     60
agcagaccaa cagaataggc aactatggct ggagaaccgg gtatcagagt aatgcttgac    120
ctcgggaaac accaaatttc ttcttccgat cgcagaagta gtactcggcg aaattcacta    180
ggtaggaggc tcctcatctg ggaagaaccg gtgcctgggg ggacctggct ggataggt      238
atg ggg gat cga ggc cgg tcc cct agt ctc cgg tcc ccc cat ggc agt      286
Met Gly Asp Arg Gly Arg Ser Pro Ser Leu Arg Ser Pro His Gly Ser
-35                 -30                 -25                 -20

cct cca act cta agc acc ctc act ctc ctg ctg ctc ctc tgt gga cag      334
Pro Pro Thr Leu Ser Thr Leu Thr Leu Leu Leu Leu Leu Cys Gly Gln
               -15                 -10                  -5

gct cac tcc cag tgc aag atc ctc cgc tgc aat gcc gag tac gtc tcg      382
Ala His Ser Gln Cys Lys Ile Leu Arg Cys Asn Ala Glu Tyr Val Ser
           1               5                  10

tcc act ctg agc ctt cgg gga ggg ggc tca ccg gac acg cca cat gga      430
Ser Thr Leu Ser Leu Arg Gly Gly Gly Ser Pro Asp Thr Pro His Gly
     15                  20                  25

ggc ggc cgt ggt ggg ccg gcc tca ggt ggc ttg tgt cgc gcc ctg cgc      478
Gly Gly Arg Gly Gly Pro Ala Ser Gly Gly Leu Cys Arg Ala Leu Arg
 30                  35                  40                  45

tcc tac gct ctc tgc acg cgg cgc acc gcc cgc acc tgc cgc ggg gac      526
Ser Tyr Ala Leu Cys Thr Arg Arg Thr Ala Arg Thr Cys Arg Gly Asp
                50                  55                  60
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ctc gct ttc cac tcc gcg gtg cat ggc ata gag gac ctg atg atc cag      574
Leu Ala Phe His Ser Ala Val His Gly Ile Glu Asp Leu Met Ile Gln
            65                  70                  75

cac aac tgc tca cgc cag ggt ccc acg gcc tcg ccc ccg gcc cgg ggt      622
His Asn Cys Ser Arg Gln Gly Pro Thr Ala Ser Pro Pro Ala Arg Gly
        80                  85                  90

cct gcc ctg ccc ggg gcc ggc cca gcg ccc ctg acc cca gat ccc tgt      670
Pro Ala Leu Pro Gly Ala Gly Pro Ala Pro Leu Thr Pro Asp Pro Cys
    95                  100                 105

gac tat gaa gcc cgg ttt tcc agg ctg cac ggt cga acc ccg ggt ttc      718
Asp Tyr Glu Ala Arg Phe Ser Arg Leu His Gly Arg Thr Pro Gly Phe
110                 115                 120                 125

ttg cat tgt gct tcc ttt gga gac ccc cat gtg cgc agc ttc cac aat      766
Leu His Cys Ala Ser Phe Gly Asp Pro His Val Arg Ser Phe His Asn
                130                 135                 140

cac ttt cac aca tgc cgc gtc caa gga gct tgg ccc cta cta gat aac      814
His Phe His Thr Cys Arg Val Gln Gly Ala Trp Pro Leu Leu Asp Asn
            145                 150                 155

gac ttc ctc ttt gtc caa gcc acc agc tcc ccg gta gca tcg gga gcc      862
Asp Phe Leu Phe Val Gln Ala Thr Ser Ser Pro Val Ala Ser Gly Ala
        160                 165                 170

aac gct acc acc atc cgg aag atc act atc ata ttt aaa aac atg cag      910
Asn Ala Thr Thr Ile Arg Lys Ile Thr Ile Ile Phe Lys Asn Met Gln
    175                 180                 185

gaa tgc att gac cag aaa gtc tac cag gct gag gta gac aat ctt cct      958
Glu Cys Ile Asp Gln Lys Val Tyr Gln Ala Glu Val Asp Asn Leu Pro
190                 195                 200                 205

gca gcc ttt gaa gat ggt tct gtc aat ggg ggc gac cga cct ggg ggc     1006
Ala Ala Phe Glu Asp Gly Ser Val Asn Gly Gly Asp Arg Pro Gly Gly
                210                 215                 220

tcg agt ttg tcc att caa act gct aac ctt ggg agc cac gtg gag att     1054
Ser Ser Leu Ser Ile Gln Thr Ala Asn Leu Gly Ser His Val Glu Ile
            225                 230                 235

cga gct gcc tac att gga aca act ata atc gtt cgt cag aca gct gga     1102
Arg Ala Ala Tyr Ile Gly Thr Thr Ile Ile Val Arg Gln Thr Ala Gly
        240                 245                 250

cag ctc tcc ttc tcc atc agg gta gcg gag gat gtg gca cgg gcc ttc     1150
Gln Leu Ser Phe Ser Ile Arg Val Ala Glu Asp Val Ala Arg Ala Phe
    255                 260                 265

tct gct gag cag gat cta cag ctg tgt gtt ggg gga tgc cct ccg agc     1198
Ser Ala Glu Gln Asp Leu Gln Leu Cys Val Gly Gly Cys Pro Pro Ser
270                 275                 280                 285

cag cga ctc tct cgc tca gag cgc aat cgc cgt ggg gcg ata gcc ata     1246
```

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Gln Arg Leu Ser Arg Ser Glu Arg Asn Arg Arg Gly Ala Ile Ala Ile
                290                 295                 300

gat act gcc aga agg ttg tgt aag gaa ggg ctt ccg gtt gaa gat gcc     1294
Asp Thr Ala Arg Arg Leu Cys Lys Glu Gly Leu Pro Val Glu Asp Ala
            305                 310                 315

tac ttc caa tcc tgc gtc ttt gat gtt tca gtc tcc ggt gac ccc aac     1342
Tyr Phe Gln Ser Cys Val Phe Asp Val Ser Val Ser Gly Asp Pro Asn
        320                 325                 330

ttt act gtg gca gct cag tca gct ctg gac gat gcc cga gtc ttc ttg     1390
Phe Thr Val Ala Ala Gln Ser Ala Leu Asp Asp Ala Arg Val Phe Leu
    335                 340                 345

acc gat ttg gag aac ttg cac ctt ttc cca gta gat gcg ggg cct ccc     1438
Thr Asp Leu Glu Asn Leu His Leu Phe Pro Val Asp Ala Gly Pro Pro
350                 355                 360                 365

ctc tct cca gcc acc tgc cta gtc cgg ctt ctt tcg gtc ctc ttt gtt     1486
Leu Ser Pro Ala Thr Cys Leu Val Arg Leu Leu Ser Val Leu Phe Val
                370                 375                 380

ctg tgg ttt tgc att cag taa gtaggccagc aacccgtgac tagtttggaa        1537
Leu Trp Phe Cys Ile Gln  *
            385

acggtttgag gagagaggtt gatgtgagaa aacacaaaga tgtgccaaag gaaacagtgg   1597
ggacaggaga caacgacctt actcaatcac acgaggttgc agtccagggc tgaaatgacc   1657
ctagaataaa gattctgaga cagggttttg cactccagac cttggtatgg gctccccatg   1717
aatttcccca ttagtgattt cccacttgta gtgaaattct actctctgta cacctgatat   1777
cactcctgca aggctagaga ttgtgagagc gctaagggcc agcaaaacat taaagggctg   1837
agatatctta aaggcagaaa ctagaaaagg ggaaaccatg attatctata agaaaatcaa   1897
aagaggggtt tgggaattta gctcagtggt agagcacttg cctagcaagc gcaaggccct   1957
gggttcggtc cccagctcct aaaaaaaaaa aaaaaaaaaa aaaaagcggc cgc          2010

<210> 45
<211> 705
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(705)
<223> n = A,T,C or G

<221> CDS
<222> (54)...(230)

<400> 45
tctagcgaac cccttcgtgg ggattaaggt tctctatagc taagcctgtc nga atg        56
                                                          Met
                                                           1

aca aca ccc aga gat ctc acc tgg ggt ggt ggg agc act ctc tgt ctt      104
Thr Thr Pro Arg Asp Leu Thr Trp Gly Gly Gly Ser Thr Leu Cys Leu
            5                   10                  15
```

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gag gga aca tgt acc tac tct ctc ctt cca caa gag cca cat aca ctt      152
Glu Gly Thr Cys Thr Tyr Ser Leu Leu Pro Gln Glu Pro His Thr Leu
         20                  25                  30

aga agt tcc agt gaa gat cta tgt gct tca gaa gag agg gga ctt gga      200
Arg Ser Ser Ser Glu Asp Leu Cys Ala Ser Glu Glu Arg Gly Leu Gly
     35                  40                  45

ggt gaa agg ggg agt ggg agg ggg gct tga ggacctanct gaaagatttt       250
Gly Glu Arg Gly Ser Gly Arg Gly Ala  *
 50                  55

angctgaaag aacttccttg attcaaagac atatgtcagt ngacccaaca atgagaatga    310
atatgagggc caggaaaact tgtgggaatc agtctcaaga cngaaacnga gaaagaaaga    370
aaagtggnta ggactcanat tggggaacct gggtagacag gagtggcnag ggaagaaagg    430
gatcttgggt tntccacagt ttgagacaca tccggngntc gaccctattc ccngaagccn    490
cannanatgt tgcttccccn tcnntnnaat gggcctggng gtcctnctcc ctttncccng    550
gacatgaaaa ngtnttctgc nnanataacc cccntctttc ctccccctcn antntgtccc    610
taccnttttg tccctttttn ttttnaaaaa annaaaataa aggggnncnn tnttcccttn    670
gaaaaaaaaa aaaaaaaaaa aaaaaaccgc ccncc                               705

<210> 46
<211> 968
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(968)
<223> n = A,T,C or G

<221> CDS
<222> (86)...(244)

<400> 46
tctagcgaac cccttcgcga aggggttcgc ttacattcac gcttaagcat attaactgta     60
catattaact gatttagagg atact atg gat tcc aca tct tcc ctg agc ata      112
                           Met Asp Ser Thr Ser Ser Leu Ser Ile
                            1               5

ggg att gat ttg aaa aat gac agg gtt ggc tgt cga ccc cca tcg gag      160
Gly Ile Asp Leu Lys Asn Asp Arg Val Gly Cys Arg Pro Pro Ser Glu
 10                  15                  20                  25

gaa gca ggt aag gaa tca ctt agg aga act gat ctc aac att ctt cag      208
Glu Ala Gly Lys Glu Ser Leu Arg Arg Thr Asp Leu Asn Ile Leu Gln
                 30                  35                  40

ttc ttt cta tta ttt act tgt tta gcc tgg agt taa attcccactc           254
Phe Phe Leu Leu Phe Thr Cys Leu Ala Trp Ser  *
             45                  50

cttgtgagca cttctaattt gaaaatccac tttcttcaat attttcgaaa tttaaaactg    314
atggatgacg tgacaaaact tccacgagtt aagaattctc cacctctgat ctcatcgcag    374
cagggcacaa tccaaggcat gtgaattgac ttccaggttt atgtgacata taaatgaatt    434
ctgtctctag atttggatcc cattctccta aatatctcac catgcatgtg cagatattct    494
```

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aaagtctaaa aatatctgat attgcaaact tttctggtca aaacattttg gatgagccat    554
ttaacagcca aggtatttga gacagaggtt tcaacagcat tcctggagga gacacaaagg    614
acagatgagt cacatgaagg atgggaggag ggaaggtggc tgttgatagg tattttgaga    674
cactctattt gagtcctaca caacactccc ccctcccccc ctccccccaa accatttta     734
tgtctattga cctttcctct agtcatacag ggacattcac agttacctac aaagaaccag    794
aattgtaaca agtcaagagg aaacttattt ttgataatga ctcattgaag atgttttgaa    854
aatttaaaaa taagctcttg taagcagaag tctgtgagaa aagcaagaag gaattgtttg    914
tttattaaat aaataaaagg cnnannnnaa aaaaaaaaaa aaaaangcgg ccgc          968

<210> 47
<211> 1183
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(1183)
<223> n = A,T,C or G

<221> CDS
<222> (246)...(983)

<400> 47
tctagcgaac cccttcggca gacagcatcc ctcccaaggc tactcagggt ttaaaccctg     60
cttctgaagt gacatgtcct gcaaagaaag tccccacgtg ggtgtttcca ccaccactgt    120
cagctctgta gctgtgcaag ctggggactc caagatcgtg atagccgttg tcaagtgtgg    180
caaatgggtg cggctccaac tggctgaggc acagcccaat ctcctagaaa ttgggagcag    240
tcaag atg aaa cca gaa aac tgc ttc acg atc acg agc tcc ttc tgg cca     290
      Met Lys Pro Glu Asn Cys Phe Thr Ile Thr Ser Ser Phe Trp Pro
       1               5                  10                  15

agc tta agg cct tgg aag atc gtg tgt ggg gac tct tac agg aag cag      338
Ser Leu Arg Pro Trp Lys Ile Val Cys Gly Asp Ser Tyr Arg Lys Gln
                20                  25                  30

aca gga cgg ctg aag caa aca agg agc aaa gtg agg tgt cga tgc cat      386
Thr Gly Arg Leu Lys Gln Thr Arg Ser Lys Val Arg Cys Arg Cys His
            35                  40                  45

ggc cag act ctg ggc gaa gca tgg gcc acc ctg gtc ttc atg ctt gaa      434
Gly Gln Thr Leu Gly Glu Ala Trp Ala Thr Leu Val Phe Met Leu Glu
        50                  55                  60

aga aga agg gag ctc ctc gga ctg aca tct gag ttt ttt caa agc gcc      482
Arg Arg Arg Glu Leu Leu Gly Leu Thr Ser Glu Phe Phe Gln Ser Ala
    65                  70                  75

ttg gag ttt gct ata aaa ata gac caa gct gaa gat ttt ctg cag aat      530
Leu Glu Phe Ala Ile Lys Ile Asp Gln Ala Glu Asp Phe Leu Gln Asn
80                  85                  90                  95

cct cac gag ttt gag agt gcc gaa gcc tta cag tca ctt ctt ctg ctt      578
Pro His Glu Phe Glu Ser Ala Glu Ala Leu Gln Ser Leu Leu Leu Leu
                100                 105                 110

cat gac cga cac gcc aaa gaa ctc tta gaa cga tct cta gtc ctt tta      626
His Asp Arg His Ala Lys Glu Leu Leu Glu Arg Ser Leu Val Leu Leu
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            115                 120                 125

aac aaa agc caa caa ctc act gac ttc ata gaa aaa ttc aag tgt gat      674
Asn Lys Ser Gln Gln Leu Thr Asp Phe Ile Glu Lys Phe Lys Cys Asp
        130                 135                 140

gga tct cct gtg aat tct gag ctc atc cag gga gct cag agc agt tgt      722
Gly Ser Pro Val Asn Ser Glu Leu Ile Gln Gly Ala Gln Ser Ser Cys
    145                 150                 155

ctg aag atc gac agc ctc ctt gaa ctt ctg caa gac agg aga agg cag      770
Leu Lys Ile Asp Ser Leu Leu Glu Leu Leu Gln Asp Arg Arg Arg Gln
160                 165                 170                 175

ctg gac aag cac ttg cag caa cag agg cag gag ttg tct cag gtt ctg      818
Leu Asp Lys His Leu Gln Gln Gln Arg Gln Glu Leu Ser Gln Val Leu
                180                 185                 190

cag tta tgt ctg tgg gac caa caa gaa agc cag gtt tct tgt tgg ttt      866
Gln Leu Cys Leu Trp Asp Gln Gln Glu Ser Gln Val Ser Cys Trp Phe
            195                 200                 205

cag aaa aca ata aga gat ctg cag gaa cag agt ctg ggt tca tcc ctt      914
Gln Lys Thr Ile Arg Asp Leu Gln Glu Gln Ser Leu Gly Ser Ser Leu
        210                 215                 220

tca gac aac aaa gag tta atc cgt aag cac gag gac ctg cca tca aag      962
Ser Asp Asn Lys Glu Leu Ile Arg Lys His Glu Asp Leu Pro Ser Lys
    225                 230                 235

caa aga gtc cct gca gtt tag gaattgaaca gaacagtttc ctgattgaat        1013
Gln Arg Val Pro Ala Val  *
240                 245

gatcttggcg cctyyttanc ggntgcagat ggtggggctt cctctggntt ctcatcctct   1073
tccactaatc tggatttttg ttcccctggt gtgccacatc actttaattt gaaagaaaaa   1133
aaataaattg ggccggaaaa aaaaaaaaaa aaaaaaaaar rrscggccnc             1183
```

<210> 48
<211> 1051
<212> DNA
<213> Rattus norvegicus

<400> 48

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tctagcgaac cccttcgcgc aagatggccg cttcccagac cgctccgcgg catcttcaag      60
atgcgcgaga agaacgtgca atctcgcgag atcaggctcg ctcgcgggca gtctgctcgc     120
agcctaccct tcctaggagt tggaggaggg aaagctagat tcgattaaga gcaaaaaatt     180
gttccagcag cagagcagct gtccaaggaa gtatccaaag gaactgcacc tcagtaaact     240
cctggcaagt cttaggatat gacaaagggc acaggatgca ttatgagaaa ggaaggctaa     300
ggttttcaag aacacagatt tacatcaaac ttgcgttctg aattaatctt tgagaatact     360
ggactgtgag ctagacattg agtaagaggt ttgttatatc aagaatgtga tctaaaaaaa     420
aaacattcat atcttcctcc cacaagagga tattttgaaa ctgtgggtca aagtcagact     480
acaggagagc cctcaaatat gccaaatgtg acagacagca ggattttgaa aatatagtgg     540
gagtatgtga agatgttcca gtcaaagaga cattgtttcc aaaggaaaga aagtccagtc     600
gcctcacagg aattgtgtat tccctggtag taatgcaaat ggaccacata tggctttctt     660
ctttaaagag aatacctaat tttagctaca gagtaaaatg ctgatgatac aaaccgtgac     720
aagtggaggg acaagaaagt aaatggactg atggtgccat tgtggactgg gagggtaaaa     780
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```
gctgtacatt tgtgaacaaa aagatttcct tgttatggtc agccatgatt ctaactgcta     840
aatggaggca gtaacaacat gacctaaaga gtaaacatcc agagatggaa tgttctcaat     900
gtctgaaaag gagcagatat ctggtgtatg tgaatgtatg ctagagattt tttacaagcc     960
tgtggtgaat tagtaattgt attttatttt gaaagttaaa caggtaatta gaaaccccaa    1020
aaaaaaaaaa aataaaaaaa aagcggccgc c                                   1051

<210> 49
<211> 576
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(576)
<223> n = A,T,C or G

<400> 49
tctagcgaac cccttcgctg aaaccaccgt tcacacggga aacctgggtt aggcttttgt      60
cctcagtgac acagaggatg tagtccacag ctaggtagaa atgtcaggtt cccaacacta     120
ctccagctgt gactttgatg cttgggggat ggggtcgcag gctattttct ctgctttaac     180
agttcataga atttaacaga taagagttag tgtctttcat gtggcctcac tctggagtta     240
tgagaacata cacacggttt acagcttttc aatatncctt tccctggcca tcaagtattt     300
tgaaagtgtg ccacctttta acctttgcgc tttatttttt tttctttttt taaagntgaa     360
ggtgataatt cttctatata tgatgaaact caatgtctac tgaaataagt gtaaccttag     420
ctatncacgt ttatntttta aaaccacgct atggagatat taccccgagt tctgtcnttt     480
ngcaagattt acagnacctt cccncccccc cttttagcat tnaataaaaa natattgggg     540
agcncnntna aaaaaaaaaa aatnaanaaa agcggc                               576

<210> 50
<211> 587
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(587)
<223> n = A,T,C or G

<221> CDS
<222> (161)...(586)

<400> 50
tctagcgaac cccttcgcgt gatctgatcc gagctgagac ttggggagct ctggctccgt      60
gttggctgca gcatccccca tggtcttgtc tgaggtgtcc tgtgactcga ctcttcagaa     120
ctcaatgaag tagatgactt gactacaatg tggaaacatc atg aca gaa agt gtg        175
                                              Met Thr Glu Ser Val
                                               1               5

gtt tgt acc ggg gcc gtc agc act gta aag gaa gtc tgg gaa gaa aga        223
Val Cys Thr Gly Ala Val Ser Thr Val Lys Glu Val Trp Glu Glu Arg
                10                  15                  20

ata aag aaa cat cat gaa gat gtg aaa cga gag aag gaa ttt cag caa        271
Ile Lys Lys His His Glu Asp Val Lys Arg Glu Lys Glu Phe Gln Gln
            25                  30                  35

aag cta gtg cgg atc tgg gaa gac cga gtg agt tta act aag ctg aaa        319
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Lys Leu Val Arg Ile Trp Glu Asp Arg Val Ser Leu Thr Lys Leu Lys
         40                  45                  50

gag aag gtg acc agg gaa gat gga aga atc att cta agg ata gag aaa      367
Glu Lys Val Thr Arg Glu Asp Gly Arg Ile Ile Leu Arg Ile Glu Lys
     55                  60                  65

gag gaa tgg aag act ctc cct tct tcc tta ctg aaa ctg aat cag cta      415
Glu Glu Trp Lys Thr Leu Pro Ser Ser Leu Leu Lys Leu Asn Gln Leu
 70                  75                  80                  85

cag gag tgg caa ctt cat agg acc gga ttg ttg aaa att cct gaa ttc      463
Gln Glu Trp Gln Leu His Arg Thr Gly Leu Leu Lys Ile Pro Glu Phe
                 90                  95                 100

att gga aga ttc cag cat ctc att ggt cta gac tta tct cgg aac aca      511
Ile Gly Arg Phe Gln His Leu Ile Gly Leu Asp Leu Ser Arg Asn Thr
            105                 110                 115

att tca gag atc ccc ccg agg cat tgg act gnt cac tta gac ttc aag      559
Ile Ser Glu Ile Pro Pro Arg His Trp Thr Xaa His Leu Asp Phe Lys
        120                 125                 130

gaa ctg att ctt agc tac aca aaa tca a                               587
Glu Leu Ile Leu Ser Tyr Thr Lys Ser
    135                 140
```

<210> 51
<211> 819
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(819)
<223> n = A,T,C or G

<400> 51
tctagcgaac cccttcggtt ctgttggcta cacagctgca gagccatggc tgaccgttca 60
ctgtcagggg cacatgttac actaagcttc atgacagtga tgtaataatg ttacacattt 120
gtcttgtagt tatgtattga agtttctgtc ctgttttgtg taaaaatgta tccactcttg 180
tatatattta gacttgaaac taccacacaa atattggaac ggtttgcttt atgaagttaa 240
aagtatcctt ccgaatggaa ctaacttgct ttgtgctcag acatatacta tgctgatgta 300
ttttgcaata tactatctta aattaaatct ggtcactttg ttgccttttt aaaaagtgtg 360
gtatttcaag tagagttatt ttcctgaaat atatttgcaa actcaagctg ctttataatc 420
aaggaatatt tttattgatt gaagaaaatg actgctgcaa ttcaaaagtg aacttatttt 480
attatataga tgatttctta aaagctattt ataccatgat acaaaatcat gtagtgatcc 540
tgggagtctg tagttcttcc tgttaataac attcaacact gtatgctaga ggcagcaatg 600
ccaacactga agttattttg ggtgaaaacc gtcgttctgn cctgtttagc tggggattat 660
taaatccata taatgtatgt gcttatgtat gctacatgtg caagttaggt gtttcctttg 720
tgttctgctt attaaatgtc attcagattc acttcctgaa ttctaataaa gagggaagct 780
attggaaaaa ataaaaaaaa aaaaaaaaaa gcggccgcc   819

<210> 52
<211> 1648
<212> DNA

<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(1648)
<223> n = A,T,C or G

<400> 52
tctagcgaac cccttcggtg gcgcacgccg gtaggatttg ccacgcaaat gctggaatta 60
aagacatgca gcagcagcgc cctgtggttt tggtttttta tttgattgct tatttttatc 120
taatttttaa ttttttgtgt atgaacgttt tatctgcatt tatgtctctg taccacattc 180
gtgcctggtg ctatggaggc caaaaaagga ttttaggccc gagattgtag ttatagatgg 240
ttgtgggctg ccaatctgag tgctgaaaat taaacctggg tactctgaaa gaccagccag 300
tgctcttaac tatcaggcca cctctccagc actattttat tttattttat ttgtggagat 360
agggtctctc tctctgtatc ctagtctaac ttaaaacata aagaatattc tgtatcagta 420
tccttgagta ctaggattct aggcacctgt cattatgcct agatttttaa cagtgtgtgt 480
taattctaca taaaaatgaa tttcattatt acattttcac acttgtgaag aatatacttt 540
gatcatattc ccttctcctg atacttttc ctatccttcc tccccactcc attagttccc 600
ttcttctttt cagagtctac cttctacttt ttactttgat ttttttcccc ccacattctg 660
tggttgagag aatgcatatt acagttgtat ttctgaatct ggctaggtac attcacttaa 720
cataattaat gatcctgggc gagcgaaggg gttcncctan cnaacccctt cggttcaata 780
ccatttcaga gatgggcatt tccctcaatg aaatacacaa gtaaacattc cgacattgtc 840
tttaggagtg tttgttaaaa aaaaaaaaaa aaaaaaccan ancccaaaan caaaaaaaaa 900
aaagctttgc accttgcaaa agtggtcctg gcgtgggtag attgctgtta atcctttatc 960
aataacgttc tatagagaat atataaatat atatataatt atatctccta gtccctgcct 1020
cttaagagcc gaaaatgcat gggtgttgta gacattcggt tgcactaaat tcctctctga 1080
attttggctg ctgaagccgt tcatttagca actgtttata ggtggttgat gaatggttcc 1140
ttatctccat ttcttcctat gtagcttaag ccgcttcctt cacagaatct aataatctcg 1200
tctaggccat tagccctgcc ctttcttaac attcttgtat ttgttgaatt tggcctcctc 1260
gaaagcaata gcaactgggt ggcccaccca agttttaacg cccctgattc catctatggc 1320
atttgtacca aatataagtt ggatgcattt attttagaca caaagcttta ttttttcgac 1380
atcgtgtttc aagaaaaaaa acaaatagaa taacaataac tatgactttg aggccaatca 1440
tttttaggtg tgtgtttgaa gcatagaacg tctnttaaac tctcaatggt tccttcaaat 1500
gatgagttag tatgtaacgt aaatagcagt ttctctctct ctctctctct ttttatttttt 1560
tccanataga gcactatgta aatttagcat atcaataata caggaactat ccnccaaaaa 1620
aaaaaaaaaa aaaaaaaaaa gcggccgc 1648

<210> 53
<211> 782
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(782)
<223> n = A,T,C or G

<221> CDS
<222> (277)...(426)

<400> 53
tctagcgaac cccttcgtag aactaggagc cagtgttgac cacggtcggt ggctggatac 60
cccactgcat gctgcagcaa ggcagtccag tgtggaggtc atcaatctgc tcactgagta 120
tggggctaac ctgaaactca gaaactcgca gggcaaaagt gctcttgagc tcgctgctcc 180
caaaagtagt gtggagcagg cactcctgct ccatgaaggt ccacctgctc tttctcagct 240
ctgccgcttg tgtgtccgga agtgcttggg ccgcac atg tca tca agc cat cta 294
Met Ser Ser Ser His Leu

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                                        1               5

cgc act agg tct gcc aga acc cct gga aaa att cct ctt ata cca ata      342
Arg Thr Arg Ser Ala Arg Thr Pro Gly Lys Ile Pro Leu Ile Pro Ile
          10                  15                  20

gtt gga aac atg ttg cct gct gta gga cac tta ata tac aca ttc agt      390
Val Gly Asn Met Leu Pro Ala Val Gly His Leu Ile Tyr Thr Phe Ser
         25                  30                  35

ggc tta acc cac tat cct aaa aat ctg ctt acc taa ttagaataaa          436
Gly Leu Thr His Tyr Pro Lys Asn Leu Leu Thr  *
     40                  45

gccttcataa atccaaatac ttgcgttgaa caaactcctg gttaggttaa tggntgccaa    496
gagataacca gaaacctttc aagtttttaa ctcttggtaa tttaaaatca aactgaaata    556
gatggaaaat aataatctat ttttggataa ttcaaggacc cttcagtatc tggggctggg    616
gtccgcattt tgnatactgg atagacacac acacaggtag gatanggtaa atnaactact    676
taaagaatgg cctgggattt aagtcctcca gatatttttt aggtngnggt ttcctaaaat    736
aaaattctgg agtgccaaaa aaaaaaaaaa aaaaaaaaag cgggcc                   782

<210> 54
<211> 538
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(538)
<223> n = A,T,C or G

<221> CDS
<222> (252)...(464)

<400> 54
gtctagcgaa ccccttcggg aaacttcaac aaaggtacca gcaactacag cgccttgtcc     60
acccagattt cttcagccaa aagtctcaga ctgagaaacg gttctcggag aagcattcga    120
ccctggtgaa tgatgcctac aagactcttc aggcccccgt gagcagagga ctatatcttc    180
taaagctcca aggaatagaa attcctgaag ggacagatta tagaacagac agtcagttcc    240
ttgtggaaat c atg gaa atc aat gaa aaa ctc gca gac gcc aaa agt gag      290
            Met Glu Ile Asn Glu Lys Leu Ala Asp Ala Lys Ser Glu
             1               5                  10

gca gcc atg gaa gag gta gaa gcc act gtc aga gct aaa cag aaa gaa      338
Ala Ala Met Glu Glu Val Glu Ala Thr Val Arg Ala Lys Gln Lys Glu
     15                  20                  25

ttt acg gac aat ata aac aga gct ttt gaa caa ggt gat ttt gaa aaa      386
Phe Thr Asp Asn Ile Asn Arg Ala Phe Glu Gln Gly Asp Phe Glu Lys
 30                  35                  40                  45

gcc aag gaa ctt ctt aca aaa atg aga tac ttt tca aac ata gaa gaa      434
Ala Lys Glu Leu Leu Thr Lys Met Arg Tyr Phe Ser Asn Ile Glu Glu
                 50                  55                  60

aag atc aag tta agc aag aac cct ctc tag ttgctaactt aaaggtttaa       484
Lys Ile Lys Leu Ser Lys Asn Pro Leu  *
```

65 70

aaataaactt tgtatttctt cannnnnnan nnnnannntn nnnnagcggc cgcc 538

<210> 55
<211> 805
<212> DNA
<213> Rattus norvegicus

<400> 55
tctagcgaac cccttcgcga aggggttcgc ttcttaccct gtggagaaag gggcaggagg 60
aacctcctgt gttaggagga agctggagct taccactgtg agaggacaga tgtggactga 120
gaattttctt agtgctcagt ggcacttccc aaggactccc ctccccttgt gctctgtgcg 180
gtttttagga cagctaagat gactgccacc tgttgtggca ggcccgattt gtcttgttct 240
ccccttactg taccccgata taatctctgt tgatcaacag gactacccca agaatccaca 300
tgttctcccc cgtaaccagg cagctgtctg gttcatgcct tcttcccttc aaacccaacc 360
cagcgccctt gttagtgaag aggtggtcca tggactgatg acaagttatt agcactggat 420
gctgtttcca tagtgacaag cctatacctc ttcccaccct ttagtgcgca gtgggctgct 480
gcttcagtat cctcccagct cagttttatt agatcaaagc tgcccttggg caccatgttg 540
gccacctcaa tcaccagcca aaatggtcgc tttgtccacc agaggtcaag ccatctttct 600
ggcgctgtag ttcccagctc cttctaggga acaggaagtt gatattgcca tgggggaggt 660
ggcggggtgt ggccgtcacc tcaatagttt tactgtaaaa gggaaatttg aacaagaaca 720
acaacaaaaa aaaaaaaaaa acaaagaaaa aaataaaaaa ctttaaaagt tgaaaaaaaa 780
aaaaaaaaaa aaaaaaagcg gccgc 805

<210> 56
<211> 1407
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(1407)
<223> n = A,T,C or G

<221> CDS
<222> (90)...(431)

<400> 56
tctagcgaac cccttcgctg ggacccgcaa ctaccaactg ccgcctggat cctaggtgag 60
ctgtgggctc tgacagcgct gtggctaac atg gca ccc aaa aag aag act ctc 113
Met Ala Pro Lys Lys Lys Thr Leu
1 5

aag aag aac aaa ccc gag atc aat gag atg acc atc atc gtg gaa gac 161
Lys Lys Asn Lys Pro Glu Ile Asn Glu Met Thr Ile Ile Val Glu Asp
10 15 20

agc ccc cta aac aag ctg aat gct cta aat ggg ctc ctg ggg gga gaa 209
Ser Pro Leu Asn Lys Leu Asn Ala Leu Asn Gly Leu Leu Gly Gly Glu
25 30 35 40

aac agc ctt agc tgt gtt tct ttc gaa cta aca gac act tct tat ggt 257
Asn Ser Leu Ser Cys Val Ser Phe Glu Leu Thr Asp Thr Ser Tyr Gly
45 50 55

ccc aac ctc ctg gaa ggt tta agt aaa atg cgt caa gag agc ttt cta 305

```
Pro Asn Leu Leu Glu Gly Leu Ser Lys Met Arg Gln Glu Ser Phe Leu
            60                  65                  70

tgt gac ttg gtc atc ggt cca aaa cca agt cct ttg atg tcc ata agt      353
Cys Asp Leu Val Ile Gly Pro Lys Pro Ser Pro Leu Met Ser Ile Ser
        75                  80                  85

caa gtg atg gct tcc tgc agc gag tct tct ata ata tcc tta aaa cga      401
Gln Val Met Ala Ser Cys Ser Glu Ser Ser Ile Ile Ser Leu Lys Arg
    90                  95                 100

tcc atc gac aaa aag ggt aga cct caa tga tatcgnccct ttagggctac       451
Ser Ile Asp Lys Lys Gly Arg Pro Gln  *
105                 110

caccgtgata gcatatgcat acacnggaaa gctgcccttt ctttatacac aataaggaag    511
catcatttct gctgctgtgt acctccagat ccacactctt gtgaagatgt gcagcgactt    571
tctgatccga gagatcagtg ttgagaactg catgtatgtt gttaacatgg ctgaaacata    631
ctgcttgaaa aatgcgaaag caacggccca gaaatttatc cgggataact tcattgaatt    691
tgccgactcc gaacaattta tgaagctgac gtttgaacag attaatgagc ttctcataga    751
tgatgacttg cagttgcctt ctgagctggt agcattccag attgcaatga aatggataga    811
attcaaccaa aagagagtga agcacgctgc ggatctttta agcaatattc gctttggtac    871
catctctgca caagacctgg tcaattacgt tcaaaccgta ccgagaatga tgcaagacgc    931
tgattgtcat aaactgcttg tggatgctat gaactaccac ttactacctt atcatcaaaa    991
cacgttgcaa tctaggcgga caagaattag aggcggctgc cgggttctga tcactgtcgg   1051
gggacgccct ggcctgactg agaagtccct tagtagagac gtttatatag agaccctgaa   1111
aatggatgga gcaagcttac agaaatgcca gccaagagtt tcaatcagtg tgtggctgtg   1171
atggatggat tcctttatgt agcaggtggt gaggaccaga atgatgcgag aaaccaagcc   1231
aagcatgcag tcagcaattt ctgcaggtac cgatccccgc ttcaacacgt ggatccacct   1291
gggcagcatg aaccagaagc gcacgcactt cagcctgagc gtgttcaacg ggctcctgta   1351
cgccggtggn gggcnccagt gnganggata tctgcagaat tcggctagcc gaattc       1407

<210> 57
<211> 2004
<212> DNA
<213> Rattus norvegicus

<220>
<221> misc_feature
<222> (1)...(2004)
<223> n = A,T,C or G

<221> CDS
<222> (88)...(432)

<400> 57
tctagcgaac cccttcggac actgccagca tagacagcag cccctgctac tgtcccacca     60
ctgtacccca gagccccgac tagcagt atg ccg gga gcg cca ggg cct ggg cct     114
                              Met Pro Gly Ala Pro Gly Pro Gly Pro
                               1               5

gag gtg gct gca gcc ttt gag gaa cgg ttg agt cag gca cta cag gaa       162
Glu Val Ala Ala Ala Phe Glu Glu Arg Leu Ser Gln Ala Leu Gln Glu
 10                  15                  20                  25

ctg cag gca gtg gct gaa gca ggc cgg tca gcg gtg acc cag gca gct       210
Leu Gln Ala Val Ala Glu Ala Gly Arg Ser Ala Val Thr Gln Ala Ala
```

```
                30                  35                  40

gat gca gcc cta gcc act gta gag cca gtg gct cag gca tct gaa gag      258
Asp Ala Ala Leu Ala Thr Val Glu Pro Val Ala Gln Ala Ser Glu Glu
            45                  50                  55

ctt cgg gcc gag aca gca gcc ctg agc cgg cgg ctg gat gcc ctg acc      306
Leu Arg Ala Glu Thr Ala Ala Leu Ser Arg Arg Leu Asp Ala Leu Thr
        60                  65                  70

agg cag gtg gag gtg ctg agc cta cgg ctg ggt gtt cca ctc gtg ccg      354
Arg Gln Val Glu Val Leu Ser Leu Arg Leu Gly Val Pro Leu Val Pro
    75                  80                  85

gac ctg gag tcc gag cta gag ccc agc gag ctg ttg ctg gct gct gcc      402
Asp Leu Glu Ser Glu Leu Glu Pro Ser Glu Leu Leu Leu Ala Ala Ala
 90                  95                 100                 105

gac cct gag gcc ctc ttc cag gca agc tga ggatgctggg accccgtgg        452
Asp Pro Glu Ala Leu Phe Gln Ala Ser  *
                110

ccacccgcct gcctttagca cccgccgcag ctcttctgcg ggcccctctc gaagcagcag    512
tctcatggag cccgatccag cagagccccc ctctgccaca gtggaagcag ctaatggaac    572
agagcagact ctggacaaag tgaacaaagg cccagagggg cggagccccc tgagtgcaga    632
ggagctgatg gccattgagg acgaaggaat cctggacaag atgctggacc aggctacgaa    692
ctttgaagag cggaagctca tccgggctgc gctccgtgag ctccgacaaa gaaagagaga    752
ccagagggac aaggaacgag aacggcggct acgagaggca cgggcccggc caggcgagag    812
ccgaagcaat atggctacta cagagaccac caccaggcac aagccagagg gcggctgatg    872
gctcggcggt cagcacagtt accaaaactg agcgggtcgt ccactccaat gacggcacgc    932
agactgcgcg caccaccaca gtggagtcga gtttcgtgag gcgctcggag aatggcagca    992
gcaagcaagc agcagcacca cggtccaaac caagaccttt tcctcttcct cttcctcatc   1052
caaaaaaatg ggcagtatct tcgaccgaga ggaccaaacc agctcacgtt ctggcagcct   1112
ggcggccctc gaaaaacgcc aggcagagaa gaagaaagag ctcatgaagg cacagagtct   1172
gcccaagacc taagcgtccc aagcacgcaa ggccatgatt gagaaactag agaaggaagg   1232
ctcttcgggc agtcctggca caccccgtac agcggtacag cgttctacca gcttcggagt   1292
ccccaacgcc aacagcatca agcagatgtt gctggactgg tgccgagcca agacccgtgg   1352
ctacgagcac gtggacatcc agaacttctc tccagctgga gtgatgggat ggctttctgt   1412
gccctggtgc acaatttctt ccctgaggct tttgactatg gacagcttag cccacaaaac   1472
cggcgccaga actttgaaat ggccttctca tctgctgaga cccatgcgga ctgcccgcag   1532
ctcctggata cagaggacat ggtgcggctt cgagagcctg actggaagtg cgtgtacacg   1592
tacatccagg agttctaccg ctgtctggtc cagaaggggc tggtaaaaac caaaaagtcc   1652
taacccctgc ttggggcccc acggatgctg gtggactgtg taccccttggt ggaggtggag   1712
gacatgatga tcatgggcaa aaagccagac cctaagtgcg tcttcaccta cgtgcaatcg   1772
ctgtacaacc acctgcggcg ccatgagctg cgcctgcgcg gcaagaatgt ctagccactg   1832
ctcacaccgc ctgcgctgca ggctgctgtc ccacgccccc aacaccggnc cctncagtgn   1892
gcctgccact gntgcccgtn tgtcgaaaca cctntcccct tgtcacacgc agngntttga   1952
taaattattt gntttnaaca aaaaaaaaaa aaaaaaaaaa aaaagcggcc gc           2004
```

<210> 58
<211> 881
<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (84)...(377)

<400> 58
tctagcgaac cccttcgctc cagggcgttt gcctcctgct gacttgctct tcaccattag 60
acaagcctga cgtcaagacc cca atg gct aac gaa gct aac cct tgc cca tgt 113
Met Ala Asn Glu Ala Asn Pro Cys Pro Cys
1 5 10

gac att ggt cac agg cta gac tat ggt ggc atg ggc cag gaa gtt cag 161
Asp Ile Gly His Arg Leu Asp Tyr Gly Gly Met Gly Gln Glu Val Gln
15 20 25

gtt gag cac atc aag gca tat gtc acc cgg tcc cct gtg gat gca ggc 209
Val Glu His Ile Lys Ala Tyr Val Thr Arg Ser Pro Val Asp Ala Gly
30 35 40

aaa gct gtg att gtt gtc cag gat ata ttt ggc tgg cag ctg tcc aac 257
Lys Ala Val Ile Val Val Gln Asp Ile Phe Gly Trp Gln Leu Ser Asn
45 50 55

acc agg tat atg gct gac atg att gct gga aat gga tac aca act att 305
Thr Arg Tyr Met Ala Asp Met Ile Ala Gly Asn Gly Tyr Thr Thr Ile
60 65 70

gcc cag act tct ttg tgg gtc aag agc cat ggg acc cgg ctg gtg att 353
Ala Gln Thr Ser Leu Trp Val Lys Ser His Gly Thr Arg Leu Val Ile
75 80 85 90

ggt cca cct tcc ctg agt ggt tga aatcaagaaa tgccagaaaa atcaaccgag 407
Gly Pro Pro Ser Leu Ser Gly *
95

aggttgatgc tgtcttgagg tatctgaaac aacagtgtca tgcccagaag attggcattg 467
tgggcttctg ctgggggggt attgtggtgc accacgtgat gacgacatat ccagaagtca 527
gagcgggggt gtctgtctat ggtatcatca gagattctga agatgtttat aatttgaaga 587
acccaacgtt gtttatcttt gcagaaaatg atgctgtgat tccacttgag caggtttcta 647
tactgatcca gaagcttaaa gaacactgca tagttaatta ccaagttaag acattttctg 707
ggcaaactca tggctttgtg catcggaaga gagaagactg ctcccctgca gacaaaccct 767
acattgagga agcgaggagg aatctcatcg aatggctgaa caagtatatt taacagcact 827
caagcacaaa ttttgaataa ttaaattgac ccgaataatt aaattgaccc gaat 881

<210> 59
<211> 97
<212> PRT
<213> Rattus norvegicus

<400> 59
Met Ala Asn Glu Ala Asn Pro Cys Pro Cys Asp Ile Gly His Arg Leu
1 5 10 15
Asp Tyr Gly Gly Met Gly Gln Glu Val Gln Val Glu His Ile Lys Ala
20 25 30
Tyr Val Thr Arg Ser Pro Val Asp Ala Gly Lys Ala Val Ile Val Val
35 40 45
Gln Asp Ile Phe Gly Trp Gln Leu Ser Asn Thr Arg Tyr Met Ala Asp
50 55 60
Met Ile Ala Gly Asn Gly Tyr Thr Thr Ile Ala Gln Thr Ser Leu Trp
65 70 75 80
Val Lys Ser His Gly Thr Arg Leu Val Ile Gly Pro Pro Ser Leu Ser

85 90 95

Gly

<210> 60
<211> 245
<212> PRT
<213> Rattus norvegicus

<400> 60

```
Met Lys Pro Glu Asn Cys Phe Thr Ile Thr Ser Ser Phe Trp Pro Ser
 1               5                  10                  15
Leu Arg Pro Trp Lys Ile Val Cys Gly Asp Ser Tyr Arg Lys Gln Thr
            20                  25                  30
Gly Arg Leu Lys Gln Thr Arg Ser Lys Val Arg Cys Arg Cys His Gly
        35                  40                  45
Gln Thr Leu Gly Glu Ala Trp Ala Thr Leu Val Phe Met Leu Glu Arg
    50                  55                  60
Arg Arg Glu Leu Leu Gly Leu Thr Ser Glu Phe Phe Gln Ser Ala Leu
65                  70                  75                  80
Glu Phe Ala Ile Lys Ile Asp Gln Ala Glu Asp Phe Leu Gln Asn Pro
                85                  90                  95
His Glu Phe Glu Ser Ala Glu Ala Leu Gln Ser Leu Leu Leu Leu His
            100                 105                 110
Asp Arg His Ala Lys Glu Leu Leu Glu Arg Ser Leu Val Leu Leu Asn
        115                 120                 125
Lys Ser Gln Gln Leu Thr Asp Phe Ile Glu Lys Phe Lys Cys Asp Gly
    130                 135                 140
Ser Pro Val Asn Ser Glu Leu Ile Gln Gly Ala Gln Ser Ser Cys Leu
145                 150                 155                 160
Lys Ile Asp Ser Leu Leu Glu Leu Leu Gln Asp Arg Arg Arg Gln Leu
                165                 170                 175
Asp Lys His Leu Gln Gln Gln Arg Gln Glu Leu Ser Gln Val Leu Gln
            180                 185                 190
Leu Cys Leu Trp Asp Gln Gln Glu Ser Gln Val Ser Cys Trp Phe Gln
        195                 200                 205
Lys Thr Ile Arg Asp Leu Gln Glu Gln Ser Leu Gly Ser Ser Leu Ser
    210                 215                 220
Asp Asn Lys Glu Leu Ile Arg Lys His Glu Asp Leu Pro Ser Lys Gln
225                 230                 235                 240
Arg Val Pro Ala Val
                245
```

<210> 65
<211> 142
<212> PRT
<213> Rattus norvegicus

<220>
<221> VARIANT
<222> (1)...(142)
<223> Xaa = Any Amino Acid

<400> 65

```
Met Thr Glu Ser Val Val Cys Thr Gly Ala Val Ser Thr Val Lys Glu
 1               5                  10                  15
Val Trp Glu Glu Arg Ile Lys Lys His His Glu Asp Val Lys Arg Glu
```

```
            20                  25                  30
Lys Glu Phe Gln Gln Lys Leu Val Arg Ile Trp Glu Asp Arg Val Ser
        35                  40                  45
Leu Thr Lys Leu Lys Glu Lys Val Thr Arg Glu Asp Gly Arg Ile Ile
    50                  55                  60
Leu Arg Ile Glu Lys Glu Glu Trp Lys Thr Leu Pro Ser Ser Leu Leu
65                  70                  75                  80
Lys Leu Asn Gln Leu Gln Glu Trp Gln Leu His Arg Thr Gly Leu Leu
                85                  90                  95
Lys Ile Pro Glu Phe Ile Gly Arg Phe Gln His Leu Ile Gly Leu Asp
            100                 105                 110
Leu Ser Arg Asn Thr Ile Ser Glu Ile Pro Pro Arg His Trp Thr Xaa
        115                 120                 125
His Leu Asp Phe Lys Glu Leu Ile Leu Ser Tyr Thr Lys Ser
    130                 135                 140
```

<210> 69
<211> 49
<212> PRT
<213> Rattus norvegicus

<400> 69

```
Met Ser Ser Ser His Leu Arg Thr Arg Ser Ala Arg Thr Pro Gly Lys
 1               5                  10                  15
Ile Pro Leu Ile Pro Ile Val Gly Asn Met Leu Pro Ala Val Gly His
            20                  25                  30
Leu Ile Tyr Thr Phe Ser Gly Leu Thr His Tyr Pro Lys Asn Leu Leu
        35                  40                  45
Thr
```

<210> 71
<211> 70
<212> PRT
<213> Rattus norvegicus

<400> 71

```
Met Glu Ile Asn Glu Lys Leu Ala Asp Ala Lys Ser Glu Ala Ala Met
 1               5                  10                  15
Glu Glu Val Glu Ala Thr Val Arg Ala Lys Gln Lys Glu Phe Thr Asp
            20                  25                  30
Asn Ile Asn Arg Ala Phe Glu Gln Gly Asp Phe Glu Lys Ala Lys Glu
        35                  40                  45
Leu Leu Thr Lys Met Arg Tyr Phe Ser Asn Ile Glu Glu Lys Ile Lys
    50                  55                  60
Leu Ser Lys Asn Pro Leu
65                  70
```

<210> 74
<211> 113
<212> PRT
<213> Rattus norvegicus

<400> 74

```
Met Ala Pro Lys Lys Lys Thr Leu Lys Lys Asn Lys Pro Glu Ile Asn
 1               5                  10                  15
Glu Met Thr Ile Ile Val Glu Asp Ser Pro Leu Asn Lys Leu Asn Ala
```

```
            20                  25                  30
Leu Asn Gly Leu Leu Gly Gly Glu Asn Ser Leu Ser Cys Val Ser Phe
        35                  40                  45
Glu Leu Thr Asp Thr Ser Tyr Gly Pro Asn Leu Leu Glu Gly Leu Ser
    50                  55                  60
Lys Met Arg Gln Glu Ser Phe Leu Cys Asp Leu Val Ile Gly Pro Lys
65                  70                  75                  80
Pro Ser Pro Leu Met Ser Ile Ser Gln Val Met Ala Ser Cys Ser Glu
                85                  90                  95
Ser Ser Ile Ile Ser Leu Lys Arg Ser Ile Asp Lys Lys Gly Arg Pro
            100                 105                 110
Gln
```

<210> 76
<211> 114
<212> PRT
<213> Rattus norvegicus

<400> 76

```
Met Pro Gly Ala Pro Gly Pro Gly Pro Glu Val Ala Ala Ala Phe Glu
 1               5                  10                  15
Glu Arg Leu Ser Gln Ala Leu Gln Glu Leu Gln Ala Val Ala Glu Ala
            20                  25                  30
Gly Arg Ser Ala Val Thr Gln Ala Ala Asp Ala Ala Leu Ala Thr Val
        35                  40                  45
Glu Pro Val Ala Gln Ala Ser Glu Glu Leu Arg Ala Glu Thr Ala Ala
    50                  55                  60
Leu Ser Arg Arg Leu Asp Ala Leu Thr Arg Gln Val Glu Val Leu Ser
65                  70                  75                  80
Leu Arg Leu Gly Val Pro Leu Val Pro Asp Leu Glu Ser Glu Leu Glu
                85                  90                  95
Pro Ser Glu Leu Leu Leu Ala Ala Ala Asp Pro Glu Ala Leu Phe Gln
            100                 105                 110
Ala Ser
```

<210> 77
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer specific for vector to produce "Driver DNA".

<400> 77
cgtatgttgt gtggaattgt gagcg 25

<210> 78
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer specific for vector to produce "Driver DNA".

<400> 78
gatgtgctgc aaggcgatta agttg 25

<210> 79
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligos corresponding to polylinker sequence.

<400> 79
gccgccagtg tgctggaatt cggctagc 28

<210> 80
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligos corresponding to polylinker sequence.

<400> 80
cgaattctgc agatatccat cacactgg 28

<210> 81
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligos corresponding to polylinker sequence.

<400> 81
ctagagggcc caattcgccc tatag 25

<210> 82
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligos corresponding to polylinker sequence.

<400> 82
tgagtcgtat tacaattcac tggcc 25

<210> 83
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligos corresponding to polylinker sequence.

<400> 83

gctcggatcc actagtaacg 20

<210> 84
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligos corresponding to polylinker sequence.

<400> 84
ttttttttt ttttttt 18